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ABSTRACT

A study compares the adult functional literacy campaigns and programs developed in seven African nations: the Gambia, Liberia, Mali, Burundi, Rwanda, Kenya, and Seychelles. After an introductory chapter outlining the background of African adult functional literacy efforts and some of the constraints on them, the second chapter gives an overview of 6 of the 7 countries' literacy activities. Chapter 3 describes a detailed longitudinal study of the literacy campaign in the Republic of Mali from its inception to the present, with projections into the future. The Mali program was chosen for an in-depth analysis because it has been considered one of the best organized, most efficiently functioning programs on the continent, having total government commitment and support. The fourth chapter analyzes the material presented in the previous chapters and offers some conclusions and implications for curriculum development and further research. (Author/MSE) (Adjunct ERIC Clearinghouse on Literacy Education)

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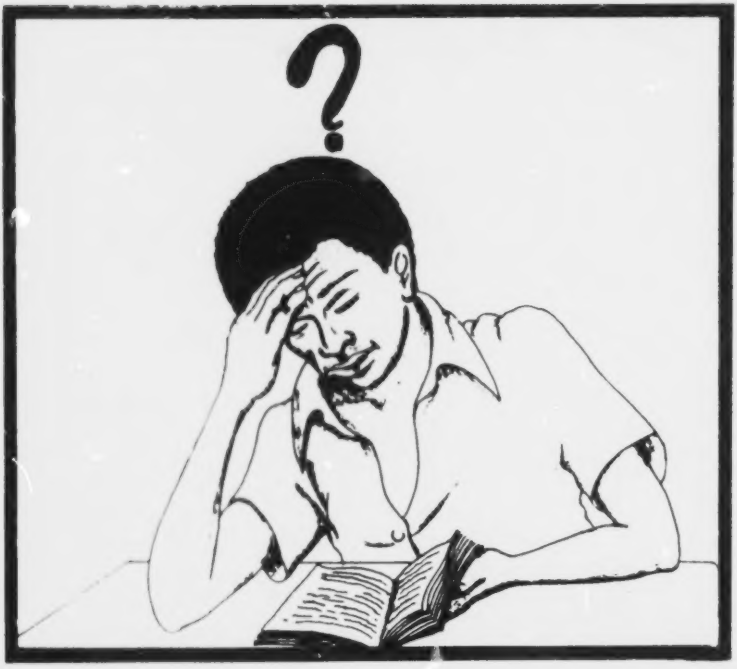

Cover of a basic English reader, Republic of Seychelles.

A COMPARATIVE SURVEY OF SEVEN ADULT FUNCTIONAL LITERACY PROGRAMS IN SUB-SAHARAN AFRICA

Edmun B. Richmond

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CHAPTER I

THE RATIONALE OF FUNCTIONAL LITERACY

The countries of the African continent are among the most depressed with regards to the number of adult citizens who are literate. The statistics of the continent reveal a preponderance of nations with severe illiteracy rates. The World Bank's list of basic indicators, although not a complete list of the nations of Africa, does shed light on the situation. Of the thirty-one nations cited with percentages for adult literacy, twenty-eight of those nations show illiteracy rates of between 45 and 95 percent.1 Although many literacy projects have been attempted and developed to combat such staggering statistics, only a handful of these projects has succeeded in progressing from the planning stage, through the field-testing and implementation stage, and has been accorded full support by the government and adopted into a Ministry of Education's total pedagogical program for the country.

Many pitfalls have had to be overcome before reaching that stage. At independence, most African nations had a limited number of adequately trained people who were educated under colonial rule. This education was in the language of the colonial European power, with minimal interest shown for the local languages. Cohen laments, "In general the colonial administration did little to encourage the study of the local language."2 Bokama credits most indigenous education endeavors, including literacy, to Christian and Islamic missionaries.3 Fafunwa charges that one of the tenets of education during the colonial period was "to educate the African away from his culture."4 After independence, one of the main concerns was to return to an education for all citizens based on African ideals and concepts, but with an idea toward the establishment of a nation within the geographical boundaries which were inherited from European domination. These

boundaries did not correspond to ethnic grouping, nor did they correspond to language distribution and usage. Nation-building, as this idea became known, was frought with multi-tribal and multi-linguistic rivalries which exist to this day. As a result of several international conferences on the continent in the 1960s, national-building came to be equated with development, i.e., instituting changes which would increase levels of production and welfare at the community, regional and national levels, as well as improving the human condition of each individual. One of the means to accomplish this development was to assure an education not only for children, but for adults as well. The children could be reached through the usual progression of primary and secondary education. Adults, however, could not be educated in the same manner due to their ages and their responsibilities to provide for their families. Nevertheless, these international conferences recognized a need to provide programs so that their adult populations could be exposed to basic reading, writing and numeracy as these skills apply to their daily lives. Such programs became known as Functional Literacy Campaigns, and were developed in the local languages of the people.

Adult functional literacy programs in many nations of the Third World have been under development since 1965. In October of that year, the World Conference of Ministers of Education on the Eradication of Illiteracy identified this problem area as a major obstacle to providing the citizens of these nations with a higher standard of living. Illiteracy, according to the Final Report of the Conference, not only limits productivity by inhibiting education and job-training, but also stands as an impediment to national unity and nation-building.5 The conference adopted and recommended a policy of functional literacy in the local languages for adults, usually to be integrated into each nation's programs in rural development.

The rationale behind a policy of functional literacy for adults, as opposed to mass literacy, encompasses the fact that most people in the Third World have little or limited formal education. Mass literacy has as its task the education of large numbers of people basically by means of the country's school system, over a relatively long period of time. Sidibe distinguishes between the two

types of literacy. He places emphasis on providing "immediate improvement" in the lives of the villagers which is best accomplished by functional literacy. The difference between the two programs is "simply one of subject matter." Functional literacy can, at a later time, be used as a base for mass literacy, since "functional literacy's ultimate aim is to achieve mass literacy."6 The concept of adult functional literacy was developed to fill this need.

Functional literacy consists of basic reading, writing and arithmetic skills which people need on an everyday basis to solve the problems of existence with respect to their own lives. Bowers directs attention to functional literacy. Such "literacy teaching. . . should be an integral part not only of any national education plans but also of plans and projects for development in all sectors of national life."7 Sonko defines functional literacy programs as those "that are designed in such a way that they combine learning to read and write for people with little or no formal schooling with new techniques for the purpose of enhancing and increasing their performance,"8 while Bhola extends this definition to include the socio-economic and political fabric of the nation. Such programs "are intended to have a major social impact on individuals, groups, institutions and communities."9 Functional literacy is especially geared toward adults because they no longer have the time to learn through mass literacy within the school system, but must learn at a rapid pace while working and providing a livelihood for themselves and their familes. Terminal objectives of these programs are such tasks as the ability to read government notices, posters, fertilizer tags, the figures on a balance or scale, a variety of pamphlets on crop and poultry production, personal hygiene, village sanitation, nutrition, infant care, family planning, etc., and the ability to solve simple arithmetic problems related to these areas. By coupling literacy with rural development, these programs can provide local populations with immediate rewards and relevance to their daily lives.

The rationale behind utilizing local vernacular languages for these literacy programs takes into consideration two basic facts of language usage. Optimum conceptual learning and development is best

accomplished through the coding system of the mother tongue of the individual. This was the prime consideration of UNESCO's milestone study on vernacular use in education.10 Wendell corroborates, "reading in the vernacular will provide the most meaning for the learners and is the place to begin."11 A new tendency reported by Richmond finds educators in these multilinguistic nations beginning primary school with the local languages as well.12 Olshtain maintains "children learning to read in their native language do not know how to read but do know their language. Foreign learners, on the other hand, have a very limited knowledge of the target language."13 Eventually these countries switch to their official languages for education at the secondary and university levels. These languages are usually a European language which was once the language of the territory during the period of colonial domination. Most rural populations never learned the European language during the colonial period, and have not learned it since. Olshtain's statement is also valid for adult learners as well. The local languages remain the most important vehicle of communication in the developing nations of the Third World.

Many African nations formed adult literacy committees to develop such programs. Materials for these courses had to be developed and written locally, since no such materials had been produced during colonial rule for most African languages. The material had to be validated and evaluated in the field. To accomplish this, cooperation at the village level, along with course syllabi and teacher training seminars had to be established, while materials had to be distributed to each village. A major undertaking of literacy programs has been to convince the national governments of their importance so that the governments would support such programs through funding and staffing. Foster notes, "Doubts as to the effectiveness of actual campaigns. . . have led African governments to limit investments in adult literacy programs. . ."14 Weinstein corroborates years later, "Judging from the very modest facilities and budgets accorded adult literacy offices, governments do not wish to see them expand."15 In spite of these obstacles, several African governments are pushing ahead with highly developed literacy programs.

Although adult functional literacy campaigns are extant throughout the Third World, the scope of this text will be limited to such programs in seven nations of sub-Saharan Africa. It will describe and examine the designs and implementation of these programs and analyze the reasons for their success or failure. Such a survey which relates diverse literacy programs is useful because there is no research now available which can declare one program's superiority over other programs. Foster emphasizes the need to develop "experimental designs in order to test the relative effectiveness of alternative methods of teaching and writing skills."16 Richmond points out that many of these experimental designs, however, have been executed with populations in industrialized nations, but few have been replicated in the developing nations.17 Those that are destined for Third World replicative studies must be adjusted to fit local cultures and languages. Another argument for producing such survey texts is that most countries are primarily wrapped up in their own literacy programs, with little input into, or superficial knowledge of, other programs located in the far reaches of the globe. Many literacy programs are proceeding independently of other source information or assistance, or may have knowledge of programs only in neighboring countries. Consequently, a variety of methodological foundations of teaching strategies has evolved. Some programs are based on using thematic subject matter as the entry point to their classroom units, others subscribe to "key words" or "key sentences," while still others recommend founding their program on syllable types. Ancillary methodology may include word-frequency lists, core vocabularies, and paired associates. Descriptions of each program's methodology, implementation, and subsequent validation can therefore assist in the development of better programs. Such feedback is important, just as it is in any research endeavor, but unfortunately, very little is available in comparative studies in Third World adult functional literacy campaigns.

The seven countries selected for this study are The Gambia, Liberia, and Mali, located in the western portion of the continent; Burundi and Rwanda, in the east-central portion; Kenya, on the east coast; and Seychelles, one thousand miles off

the east coast, in the Indian Ocean. References to other African nations' adult literacy policies will be included where applicable, but will not be discussed in detail. The next chapter will present six of the above countries in a comprehensive overview of their literacy activities, while Chapter III presents a detailed longitudinal study of the literacy campaign in the Republic of Mali, from its inception to the present, with projections into the future. This country's program was chosen for a detailed analysis because it has always been considered to be one of the best organized, most efficiently functioning programs on the continent, complete with total governmental commitment and support. Chapter IV analyzes the material presented in the previous chapters and offers some conclusions and implications for curriculum development, as well as possibilities for further research in the field of Third World adult functional literacy pedagogy.

MAP OF THE STUDY AREA

NOTES

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[15]Brian Weinstein, "Language Planning in Francophone Africa," Language Problems and Language Planning, 4,1 (1980), p. 65.

[16]Foster, "Problems of Literacy," p. 587.

[17]Edmun B. Richmond, "Cultural Refraction: Its Effects on Replicating Literacy Research in Developing Nations," Geolinguistics 86, forthcoming.

CHAPTER II

THE COUNTRIES AND THEIR PROGRAMS

The Gambia

With only 41,000 square miles, The Gambia is one of Africa's smallest nations. The country lies on the west coast of the continent, surrounded on three sides by the Republic of Senegal, with a small coastal area on the Atlantic Ocean, at the mouth of the Gambia River. The country extends some 200 miles inland along both banks of that river, and varies in width from thirty miles at the mouth of the river to seven miles in the interior. The ethnic composition of The Gambia is similar to that of surrounding Senegal. During the colonial period, the area came under ultimate colonization of England, while Senegal became a colony of France. The 1984 World Bank's "Basic Indicators" placed the population at 0.7 million inhabitants. Independence from England was granted in 1965, and the nation became a republic in 1970. It is one of the few African countries to support a presidential parliamentary democracy.

The Mandinka, Pulaar and Wolof are the three largest ethnic groups in the country, with the Mandinka comprising about 50 percent of the population. The Wolof are mainly located in and around the capital city of Banjul, which is situated near the coast. A smaller concentration of Wolof is found in the interior near the city of Basse. The Pulaar are also located in the interior. Other ethnic groups found in the country are the Aku, Bambara, Joola, Manjako, Sarakole and Serere. Languages of The Gambia are classified as being members of the West Atlantic and Mande branches of the Niger-Congo Family.1

A formal literacy campaign in The Gambia was not conceived until 1976, when representatives from several governmental and private organizations met

to discuss linking adult literacy with agricultural and rural health projects. A National Literacy Advisory Committee was formed to develop and implement a policy for literacy and numeracy in the local languages. Among the early principles defined by the Committee were that the first literacy program would be developed in Mandinka, the language of more than half of the nation's population, with a second stage of literacy to be accomplished at a later time in English, the official language of the country. The Roman script would be used as the orthography, since it had been introduced during British rule in the colonial period. People from within each community would be selected and trained as instructors, and would teach within their own community. Post-literacy materials would also be produced so that the learners would have something to read after their instructional period.

Before embarking on a full-scale literacy program, a pilot study was initiated in 1978 in several villages to test the validity of the program material and teacher training. The pilot study was observed by a panel of international experts from several African countries. The largest obstacle was the lack of trained teachers or curriculum developers to mount a large literacy campaign. The experts, along with the NLAC, recommended a tactic of basic literacy with the goals of recognition of the most commonly used syllables as the pedagogical base of the materials. Teacher's manuals were produced bearing in mind that the instructors, now called Facilitators, had no formal training in the techniques of adult education or literacy. The manuals included general sections on the preparation of lessons, materials and teaching aids, how to use a blackboard, flannellboard, flashcards, posters, pictures, as well as specific sections on the methods of teaching literacy and arithmetic. Literacy methodology was based on the "Word Method," of writing a word on the blackboard, pronouncing the word with the learners, then breaking the word into its constituent syllables and pronouncing each syllable. These words, which were used orally at first, would be used at a later time when writing was introduced. An elementary textbook was developed and contained twenty units of reading, writing and arithmetic. At this level, writing was taught solely with lower-case letters. The first four units contained pictures showing the

environment of the Gambian farmer, and the words to describe these pictures (See Figure 1). These units were used only for reading practice. Later units included writing exercises, reading passages, and dictations. By 1980, literacy programs were functioning in fourteen villages, comprising 872 students. By then two areas of difficulty emerged. The first was an inadequacy in teacher training. Most teachers went through the two-week training period with success, but actual classroom work in the field proved that the teachers did not fully understand the methodology. Although the NLAC had developed a syllabus for each class, teachers found it difficult to plan and sustain day-to-day activities and utilize class time in an efficient manner. The second area of difficulty was the inability to have materials printed and distributed in time for their use according to the syllabus.

Among the post-literacy materials, the NLAC produced a bi-monthly newspaper, a coursebook in handwriting, and several stories of historic personages from the Mandinka culture (See Figures 2 and 3). Other projects under way during this period included the production of a Mandinka-English dictionary.2 Unfortunately, the entries in the 155-page dictionary were randomly selected and were not based on any statistical frequency of occurrence of Mandinka vocabulary. Another project involved the concept of the core-vocabulary and its use in literacy materials as an alternative supply of vocabulary with a high frequency of occurrence. A statistical analysis of the vocabulary of Gambian Mandinka was initiated, with instructions on developing literacy materials from the statistical sample.3

The literacy program continued, but was bogged down by the large number of organizations working in the campaign. Although the NLAC had the task on paper of coordinating the campaign, this was not the case in practice. Each organization involved in literacy developed its own materials. There was very little feedback from one organization to the next, with little sharing of experience and produced maerials. Consequently, much of the work was repetitive in nature, and caused duplication of materials and loss of time and manpower. This situation was rectified in 1981, when the Gambian government put the entire literacy campaign under

the control of the Ministry of Education, Youth, Sports and Culture, and its Department of Non-Formal Education. In October of that year, the Ministry, along with the newly established Non-Formal Education Centre and the UNESCO Regional Office for Education in Africa (BREDA), sponsored a week-long seminar with the intention of streamlining and ameliorating the literacy campaign, and to make several far-reaching decisions with regard to the program. The main thrust of the seminar was to reaffirm the solidarity of all participants to function under the single leadership of the Department of Non-Formal Education, and to work toward the goal of national literacy in the country by the year 2000.

The approach to be utilized was defined as a "selective/intensive" one, by focusing on selected rural target populations and "maintaining a high percentage of literacy" within that group.4 The seminar further encouraged using mass media techniques, especially radio, film, journals, and village meetings as support systems to the campaign. The initial target population would consist of males and females ranging from ages 15 to 40. The native language of the villages would still be used, but a major departure from previous policies was initiated by recognizing the need for concomitant programs in Wolof and Pulaar, the languages of the second and third largest cultural populations in the country. The prime task was to teach basic literacy utilizing these three languages, with expansion to English "where it it desired by, and known to the participants."5 The program would consist of 240 contact hours, after which the participants would be tested by various means to determine their level of literacy attainment.

The most heated debates of the seminar took place during the discussions of a definitive choice of orthography. Two proposals had been submitted, based on work by the Technical Sub-Committee of the NLAC and by the Curriculum Development Centre.6 The basic discrepancies were in the use of diacritics and/or special symbols which would be difficult to produce in type fonts. Consideration was given to avoiding an overly complicated system, and to developing a system compatible with transition to literacy in English. Diacritics were rejected, but the main point of disagreement surfaced with the

proposal to add two new symbols, ñ and ŋ. The previous Mandinka orthography used ny and ng, respectively. The argument to use the new symbols was founded on the fact that they are in present use in Senegal orthographies for Wolof and Mandinka, and are also recommended by the 1966 Bamako Conference on the Standardization of African Alphabets. The new symbols were chosen for all three Gambian languages by a vote of 23 to 10, with one abstention.

Facilitator recruitment, training, and renumeration were also defined by the seminar's participants. Facilitators would be recruited from the public and private sectors, including civil servants, school teachers, extension workers, villagers, and early school-leavers. Training would be provided in the areas of general adult education theory, and specific literacy methodology, which would include introduction to the new orthography. Those recruited from the public sector would receive training first, then transfer to the rural sites in order to train village-level facilitators. Provisions for renumeration were established for the training period and the teaching period. These provisions included either monetary compensation or payment through bags of rice, seed or fertilizer.

The roles of the coordinating organizations within the Ministry of Education were specified and their relationships to each other were redefined. The National Planning and Advisory Committee became the coordinating inter-agency body among Agriculture, Family Planning, Medical and Health, Education, Co-Ops, and other agencies. The Non-Formal Education Service Centre became responsible for materials production, facilitator training, program evaluation, disbursement of funds, and the coordination of the sectorial field programs. An important feature is the linkage and feedback available, not only between the NPAC and the NFEC, but also from the divisional level directly to either of those organizations.

During this period of redefinition and change, several pedagogical projects were under way. One project was to specify the core vocabulary of Wolof and Pulaar, on the model of the analysis of Mandinka, which was initiated in 1980. As was the case with Mandinka, a study of the core vocabularies

Figure 1. Page from elementary Mandinka reader, The Gambia.

Figure 2. Post-literacy reader, The Gambia.

Figure 3. Pages from post-literacy Mandinka reader showing line drawing and orthography used in 1980, The Gambia.

jeleta, a ko a ye, "Bari i ye luwaa le fo n nye, fo i ye a yita n na. Baawo i ko a ye m muta le adung n te mang a je." Wo bengo janjangta wo le nyang, bari Maalang Saane mang pasi de, adung a mang kuwolu tu wo nyaa.

Ngansu taata a la suwoo kono, a ye i wurang a be siiring. Wo tumoo dung ning a sayita suwoo kono a ye i wurang a be siiring ning i ko a ye tubaaboo ko i ye taa, a buka dung bungo kono koteke, a wo musu maa le ka taa i dankung. Wo lung fanang a kensengo le be siiring banta, bengo koolaa, jaloolu ning kooraalu be kuma la. Wo le nyaa soridaasoo boring boring too nàata a ko a ye taa i dankung. A ye a tara Maalang Saanee meng ye Ngansu jikoo long wo le taata a fo Kumandango ye, "Ning i ye a kili a bi naa le bari a musu maa le bi naa." Biring soridaasoo, ko a ye i ko ye taa, a wulita wo nyaa le a tambita wo nyaato, a ye a la joorangolu bee tu a la dendika baalu jifoolu kono. Bari a mang kundaanoolu bee wurang.

Biring i futata, Kumandango ko a ye, "Ngansu, i naata? N ko luwaa ue i muta, i ye i bang." Nyancoo ko a ye "M mang balang. N te ko le ye, luwaa yita n na, n ning a ye nyoo kontong foloo, kaatu feng buka n te muta n ning mang nyoo je." A be a daa jii la wo la dorong soridaasi kuntiyo meng be looring a kooma, wo ye kidoo yelemandi, a ye Ngansu junku kidi kungo la a sanyoo to. Ngansu ye a kooma fele a ye nyininkaaroo ke

Figure 3. Continued.

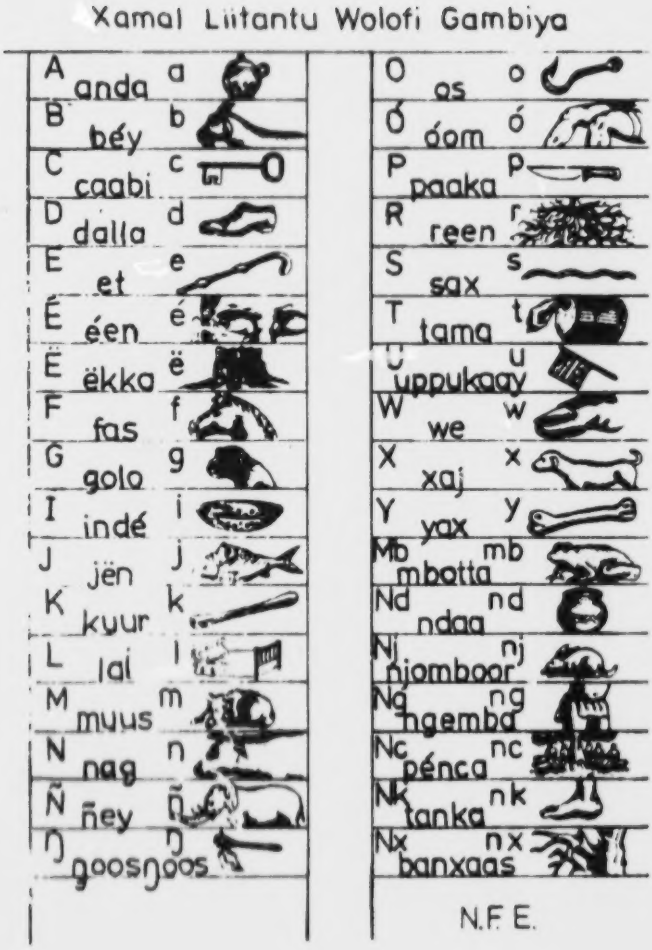


Figure 4. Poster of Wolof orthography, The Gambia.

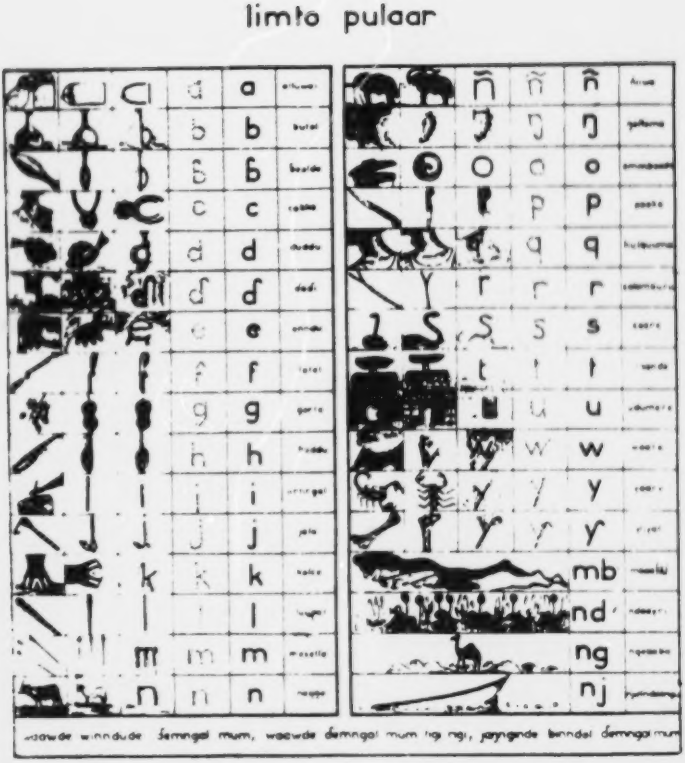
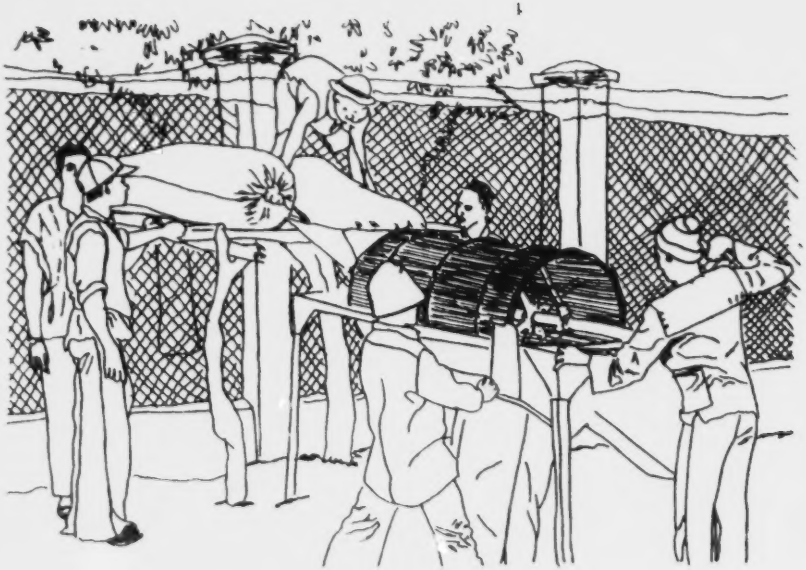


Figure 5. Poster of Pulaar orthography, Senegal.



ñinaŋ saŋo kambiya koparatif alimanaako

1982 Gambian Co-operative Almanac

Figure 6. Almanac in Mandinka and English showing new orthography, The Gambia.

Functional Numeracy

The Gambia

Figure 7. Cover of pamphlet advertising classes in basic arithmetic, The Gambia.

of these two languages had never been attempted. A second project was to provide another controlled source of culturally-determined vocabulary items. Paired-associate studies were replicated into Mandinka, and gradational vocabulary material based on base-referential spectra were developed.7 These studies are being examined by the NFEC and integrated into the program, either as basic research or direct transfer to classroom materials. Other projects included the completion of a manual of orthography for Wolof and production of a similar manual for Pulaar, still in preparation (See Figures 4 and 5).8 An almanac is now being produced and distributed by the Co-operative Training Centre in Yundum. The almanac is directed toward the agricultural sector, and contains monthly calendars showing the phases of the moon and Muslim holidays, as well as line drawings of Co-operative personages interacting with Gambian villagers. The almanac is written in both Mandinka and English (See Figure 6). Along with their involvement in literacy courses, the CTC also offers specialized seminars and courses in functional numeracy (See Figure 7).

Liberia

The Republic of Liberia is located at the southwestern bend of the West African bulge. It has an extensive coastal area on the Atlantic Ocean, and is bordered by the Ivory Coast, Sierra Leone, and Guinea. The 1984 "Basic Indicators" of the World Bank placed the population at 8.9 million inhabitants. Liberia is the continent's oldest independent republic. The area around the present day capital, Monrovia, became a colony for freed American slaves who were returned to the continent in 1822. Sixteen languages are recognized by the present government. The largest ethnic group is the Kpelle. Other large groups are the Bassa, Dan, Grebo, Kru, and Mano. Liberian languages are classified as members of the West Atlantic and Mande branches of the Niger-Congo family.1 English is also considered as an indigenous language, since many liberated slaves who were returned to Africa spoke the Creole English heard on the plantations of America. English, however, is the only official language. The present government is a military dictatorship.

Since the 1980 coup in this country, educational reforms have been implemented, and plans for adult literacy programs have been developed under governmental sponsorship. A National Language Plan has been established with two policies in mind. The first is the execution of the "native language first" in primary education, which has gained popularity across the continent. The second policy is to establish adult literacy programs in the local languages. The government wishes to integrate these policies with ongoing linguistic research of local universities and religious organizations.

The present work in adult literacy is in its infancy and is now accomplished by the Liberian Language Institute. This organization came to Liberia in 1969, and was originally funded by the Lutheran Church to translate the Bible into the local languages. The organization, while still providing this service, is in the beginning stages of developing materials for adult literacy in eight indigenous languages, including Gola, Grebo, Kissi, Kpelle, Kra, Kru, Vai, and Vandi.

The first task of the Institute is to transcribe the local languages into phonetic script. From that point, an orthography based on a modified Roman script with IPA symbols is developed. An older writing system, the Vai-Mende syllabary developed in the 1840s is still in use in some isolated quarters of the nation9, but the LLI is attempting to replace this orthography with its present choice. The next phase is to translate the Scriptures into the local languages. This is accomplished by teams consisting of five workers per team. Each team includes one drafter, who is a native speaker of the target language, as well as being fluent in English. His task is the actual translation of the material into the target language, and the supervision of the team, which consists of an assistant who is trained in general linguistic theory; two translators, who work from the drafter's directions; and a literacy teacher, who is responsible for the development of the reading and writing materials and their execution in the classroom. The teams work with native informants to insure accurate language usage.

Literacy material is slow to develop due to the

LLI's insistence on using the IPA symbols as part of their orthography. Although the LLI has several typewriters with IPA characters, there are no type fonts which contain the IPA symbols. Consequently, very few materials are printed and published, and only a small number of literacy classes have actually been attempted. There is no information available pertaining to the details of the classroom methodology, or results of those few classes already in session.

Burundi

The Republic of Burundi is a land-locked mountainous country located in east-central Africa, surrounded by Zaire, Tanzania, and Rwanda. During various periods of colonial rule, the area was under the jurisdiction of Germany and Belgium. After World War I, it became part of the League of Nations mandated territory of Ruanda-Urundi. Independence was received in 1962, and the territory split into the two nations of Rwanda and Burundi. The 1984 World Bank population estimate was 4.3 million. Both nations of Burundi and Rwanda form a homogenous ethnic and linguistic area. The two ethnic groups of both nations are the Hutu and Tutsi. A small group of Twa pigmies is also located in the area. The Hutu and Tutsi share a common Bantu language, although it is known as Kirundi in Burundi, and Kinyarwanda in Rwanda. Kiswahili has moderate use as a trade language. The official languages of Burundi are presently Kirundi and French, but a major attempt to install English as a third official language is currently under way. The present form of government is a one-party dictatorship.

Although the Republic of Burundi has a large and popular adult literacy program, it is not directed or controlled on a governmental level. The Burundian government, while it sanctions such a literacy program, has not integrated an official policy into legislation due to overriding cost expectancies. Not only are the usual expenditures extant for a working literacy campaign, but in this country there is an extreme shortage of paper, making literacy materials difficult to produce and supply. Other language priorities in the country

are taking precedence before the literacy program. In 1974, along with other educational reforms, a presidential decree began an official program of trilingualization. Plans for the country include legislating Kirundi, French, and English as official languages, and offering courses for all three languages in the national educational curriculum.

Literacy learning in Burundi was begun during the colonial period by German and Belgian missionaries. The purpose was not to educate the population, but to teach them to read the Scriptures. Present day missionary groups have continued to offer programs of this type. After independence in 1962, the Ministry of National Education (MEN) initiated several attempts at literacy programs, but finally relegated this responsibility to the Political Party of Burundi, in 1977. Since that time the PPB has undertaken control of the adult literacy campaign, while receiving the assistance of the MEN. All of the literacy materials and teacher manuals are developed at the MEN by personnel from both organizations. The MEN, since it has greater access to paper supplies, produces and issues all materials. The long-term goal of the PPB is total literacy in Kirundi, but it is hampered by the lack of an official policy statement from the government. In spite of no official policy, the program has expanded through word of mouth, and has become extremely popular with adults. It is at the desire of individuals or groups that new courses are initiated and established courses are continued. Many people will get together and actively search for a literacy teacher, then petition the PPB to begin a course, with the assurance of the group's interest and continued participation. This interest persists, not only in the capital, but in other areas of the country as well. Consequently, the Gagara Center was established in the capital of Bujumbura in 1977, and has been operational since that time. In the beginning, only women attended the classes. As these women demonstrated progress in reading and writing, men decided to attend. Classes at the Center meet three times per week. Each class lasts two hours. The program consists of one hour of reading and writing, and one hour of arithmetic. Classes are divided into elementary, intermediate, and advanced levels. The government did not lend its support to the Center in its early

stages, but now recognizes its success. In 1979, a formal proposal was presented to the government for 100,000,000 Burundian Francs to establish a massive adult education program. The government did not have the funds at that time, and inflation has caused that figure to skyrocket out of the realm of possibility.

The methodological base for the program material is the theme and the key-word. Each unit begins with a cultural theme taken from daily life, such as "John is fertilizing his crops," or "John is going to get water from the well." Although the theme has the basic concept of the unit, focus within each unit is placed on individual words. Actual literacy practice is accomplished by using these key-words, which are pronounced, and divided into syllables for reading practice. Both choral and individual responses are elicited from the participants. Writing is accomplished by copying from blackboards in syllables, then writing whole words. The participants use small notebooks supplied by the MEN. Two forms of writing are taught. The style initially taught is a cursive form, with printed forms introduced at a later time.

This strong desire on the part of the adult population prompted the MEN to contact UNESCO to ask their cooperation in jointly sponsoring a literacy methodology and teacher training workshop. In August, 1980, a three-week seminar was held in the capital. The PPB petitioned UNESCO to lend monetary assistance to the literacy program, but UNESCO declined until such time that the MEN/PPB could produce a long-term operational proposal and demonstrate that the proposed program was being implemented and was successful.

Rwanda

The Republic of Rwanda lies to the north of Burundi, and is bordered by Zaire, Uganda, and Tanzania, as well. The 1984 population estimate of the World Bank is 3.5 million. The ethnic composition of the country is similar to that of Burundi. The official languages of the nation are Kinyarwanda and French. Kiswahili is also used in

some areas as a trade language. Independence came to the ex-Belgian mandated territory in 1962. The present government is a one-party dictatorship.

Rwanda is another country which does not have a governmentally sponsored literacy campaign. It does, however, have an extensive adult program offered by the Protestant Church. This organization provides a 200-hour literacy course at its Rafiki Club Center in Kigali, the capital. In addition, the club offers other adult courses in arithmetic, basic electricity, and three other languages. The literacy courses are designed along a theoretical base originating from a statistical analysis of the frequency of occurrence of Kinyarwandan syllable types.10 The literacy service was initiated in 1974.

Dion considers the frequency of occurrence "the sole valid criterion for a systematic and progressional apprenticeship" for learning the writing system of Kinyarwanda.11 He identified what he termed "syllable families," which are composed of clusters of CV combinations. The members of each family are based on one of the five Kinyarwandan vowels, /i,e,a,o,u/. Syllabic cluster types progress from CV (ma), CCV (mwa), CCCV (mbwa), to CCCCV (mbywa). An analysis of 5,880 words was undertaken. Within this sample, 4,563 syllables, or 77.6 percent were of the CV configuration; 1,239 syllables, or 21.07 percent were CCV; 78 syllables, or 1.33 percent were CCCV. None of the syllables in the sample were of the CCCCV type, although they do appear in the language at a very low frequency. The sample provided initial data, not only for syllable-types, but also for their frequency of occurrence. The literacy strategy derived from this study teaches syllables according to that frequency. Thus, the individual letter a is taught first, followed by the CV syllable types associated with it. The syllables ra, ka, ba, and ma are then taught, followed by ga, na, za, ta, ya, and ha. These ten syllables, each represented by two sounds, were statistically the most frequently used in the word sample, or a total of 69.5 percent of the sounds used in Kinyarwandan words. By adding family syllables with three sounds, i.e., mba, nga, nka, nza, nta, nya, bya, mya, and lya, nineteen syllables, which represent a total of 78.8 percent of all the sounds of the language, are introduced

and taught in the literacy program. Although the letter a is a difficult one for novice writers to draw, certainly more difficult than e or i, Dion supports starting with the a because it appears as the most frequent vowel in Kinyarwandan syllables. After the a-family sequence is taught in lower-case letters, the upper-case letters are introduced. The second family sequence taught is the e-family. Dion further executed a study of the occurrence of punctuation and integrated it into the program as well. His system also accounts for the writing of words of foreign origin. He proposes to retain the spellings of the word as it appears in the language of origin, unless it has been used for a long time in Kinyarwanda, and consequently has been already accepted into that language and modified to Kinyarwandan phonotactics.

Dion maintains that the program is highly economical in terms of learning time. He claims 100 hours to learn the alphabet, and six months to learn the syllable types. The textbook can be completed in 200 hours. The course at the Rafiki Club operates on two schedules, four hours per week for men, and two hours per week for women. Twelve teachers are involved in the program. The textbook consists of twenty-three lessons, and is divided into two parts. The first section teaches the syllabic material, as well as reading and writing of actual words. The second section contains dialog and conversational material with a cultural theme, such as "The Market," "Bazaars," "City Traffic," "The Dispensary," etc. From this material two key sentences per unit are selected for study, and key words are extracted and pooled into a subject area according to the theme of the unit. Vocabulary such as that used for construction and building, tools, farm implements, building materials, and electrical terms are taught as related sets of words. Supplementary materials related to the theme accompany each unit. Results indicate a large success rate, but also indicate two problem areas. One area of difficulty is the teaching of the spaces between Kinyarwandan words, due to the elision which is used in the spoken language. The other problem is confusion between printed and cursive forms of the written language, since the program teaches both forms (See Figures 8 and 9).

The Rafiki Club also publishes several

o i a e u

u u u u u u u u u u u u

4

e e e e e e e e e e e e

5

1 1 1 1
2 2 2 2
3 3 3 3
4 4 4 4
5 5 5 5
0 0 0 0

Figure 8. Pages from elementary Kinyarwandan reader, Book 1, Rwanda.

BEST COPY AVAILABLE

nkwa *nkwa* inkwano — 38

inkwenene inkwi Nyilinkwaya i Rwinkwavu Senkware yankwikiliye

nwe *nwe* inweli — 39

umunwa kunwigira ubwanwa bicanwe kunweza

gwi *gwi* urugwiro — 40

urwagwa urusamagwe Rwabigwi Mukakagwera i Shyogwe i Gihogwe kugwiza umugwanabi imigwegwe

Yewe ni uko abagabo batalira, Rwego ala yaralize. Arahaguruka arazenga, arongera alicara yifata ku gahanga nk'umuntu uguye agacuho. Ati: "Ese Gatesi ubirubijeho iki ?". Ibyo abivugana ikiniga, ijwi lyenda guhera, intimba imushengura. Yegura inkono y'itabi araturmagura asa n'ugaruye imbaraga. Gatesi yumvise ko se amubajije atyo, aratuliha aralira. Yali kumubwira iki ? Kuruga ko byali ibinyoma kwe-

Figure 9. Pages from elementary Kinyarwandan reader, Book 2, Rwanda.

Figure 10. Cover of post-literacy Rafiki Journal, Rwanda.

pamphlets and small magazines, including a local newspaper (See Figure 10). These publications are available through the Rafiki Club office. At this time, there is no distribution system to the outlying areas.

Kenya

The Republic of Kenya is situated on the east coast of the continent. It is bounded by Somalia, Ethiopia, Sudan, Uganda, and Tanzania. A coastal area faces the Indian Ocean. Formerly part of British East Africa, along with Uganda and Tanganyika, Kenya received its independence in 1963. Present population estimates are placed at 18.1 million. The Kenyan government recognizes more than forty separate ethnic entities. The largest group is the kikuyu. Other large groups are the Gusii, Kamba, Luo, Luyia, and Meru. The official language of the nation is English. Kiswahili has national language status. Other languages are classified as regional languages. The two languages with the largest number of speakers, either as a first or second language, are Kikuyu and Kiswahili. The two major language families in the nation are Bantu and Chari-Nile.1 The country is a one-party republic.

In December, 1978, the Kenyan government announced a five-year development plan focusing on the alleviation of poverty through the provision of basic needs. One of the major projects of the plan was to resettle farmers on unused or mismanaged lands in order to increase the country's agricultural output for local consumption. Among the five areas of the plan's concentrated efforts was that of a mass literacy campaign. The directive expected illiteracy to be eliminated by 1983. The Department of Adult Education was founded in April, 1979, as part of the Ministry of Culture and Social Services, and had as its mandate the elimination of illiteracy as a short-term objective, and the use of education to help adults help themselves as its long-term objective. The Department was formed by amalgamating the Board of Adult Education Secretariat and the Division of Adult Education of the Department of Social Services, into the new organization. The Department of Adult Education

employs over 3,000 full-time teachers and 5,000 part-time teachers. In addition, 10,000 voluntary self-help teachers are included in the program. Althougn volunteers do not receive materials and supplies as well as technical support from the Department. There are forty indigenous languages officially recognized by the Kenyan government. Of these, the Department has working literacy programs in seventeen, including Boran, Gusii, Kalejin, Kiembu, Kikamba, Kikuyu, Kimeru, Kiswahili, Kuria, Luo, Luyia, Maasai, Pokot, Rendille, Somali, Teso, and Turkana. The program in Kiswahili is further divided into coastal and interior varieties. Many of the other 23 languages are similar in structure and phonology to the seventeen already chosen for literacy programs, and have been combined into the original seventeen, in order to lower the number of programs yet to be developed.

Although Kenya is a medium-sized African nation, its complex system of political divisions calls for an equally large and complex administrative and logistic literacy system. The nation is divided into eight provinces, which are broken down into forty-one districts and 200 divisions. In addition to the headquarters office in Nairobi, staffing and support offices are located at the provincial, district, and division levels. The division is considered the focal point of the program because it brings the program down to the village level. Each district has two officers in charge of its divisions. Each division has one supervisor who is responsible for developing programs at the village level. The provincial headquarters is staffed by three officers. About forty Adult Education Officers operate from the national headquarters in Nairobi. Most officers are university graduates. District Officers have the Bachelor of Education, while Provincial Officers are expected to complete the Master of Education degree. Professional preparation for teachers consists of a two-week initial training period in methods of teaching literacy and adult classroom psychology. An in-service program is also mandatory. Teachers enroll in a two-year correspondence course through the auspices of the Institute of Adult Studies, the University of Nairobi, and the Voice of Kenya. The VOK broadcasts the credit courses throughout the country, so that rural teachers have an opportunity to obtain their credentials as well as those

teachers who live in the large urban areas. Three courses in the theory of adult education, literacy techniques, and curriculum development are transmitted over VOK. The programs for each subject are 45 minutes in length, and are broadcast each day.

Materials are developed in the mother tongue, and in Kiswahili. Although Kiswahili is an indigenous language for a large population, others speak it as a second language. It is also the national language. This has a profound effect on the policy of the literacy campaign. Initial literacy remains in the mother tongue, but as soon as people can read in their own language, they are introduced to the Kiswahili literacy program. It is expected that a majority of people, therefore, will be literate in two languages. However, that is not the end of the literacy progression. The official language of the country is English, so that materials in that language must also be integrated into the program. In fact, post-literacy materials are being developed only in Kiswahili and English. This is done for three reasons. The cost of developing and printing materials in so many languages is extremely high. By developing post-literacy materials in only two languages, that cost is drastically reduced. In addition, the large number of languages also is indicative of a large number of tribal units, and the accompanying severe problems of tribal factionism. It is believed that the use of Kiswahili and English imparts the concept of national unity and minimizes tribal differences. Further, Kiswahili remains the most important language in the rural areas of the country. English, on the other hand, is a necessity in the urban areas. It is the language used for all government examinations and is perceived by the public as the entry point to better job opportunities, and consequently, to a better life.

Materials for the indigenous languages are developed on location in the districts and villages where the materials will be used. The materials are produced over a four-week period. The first two weeks are spent in workshops which sift through baseline linguistic survey material, interpret the data, and decide the type of material according to linguo-cultural groups in the particular area. The second two-week period involves the actual writing

of the material in the field, in cooperation with local informants. The material is then pre-tested before printing and distributing to classes.

In some areas of the country, the enrollment is quite high, and prospective students must be turned away until the next enrollment period. Other areas of the country display a mild interest, or no interest at all, especially in certain rural male populations. Classes range from thirteen to eighty students. It is during these large classes that many part-time and volunteer teachers are used. The part-time teachers provide two hours of instruction per day, while the volunteers work when they have the time. Materials are divided and sequenced into three stages of literacy. Stage One is the entry-point into the program. Books for these classes are based on similar subject matter in each of the seventeen languages. Two books are used in the local language program. These books teach elementary numeracy, reading, and writing. The materials make use of many drawings and pictures which are captioned with individual words. The words are taught first, then divided into syllables. Practice continues with syllables and whole words. Stage Two consists of follow-up materials at an intermediate level. It is used as a bridge to Stage Three, the post-literacy period. Research by the Department of Adult Education shows the most difficult progression to be into the English program. Advancing from local language to Kiswahili does not appear to be a major obstacle, since many Kenyans speak it as a second language, or have a working knowledge of it in limited situations. English presents a problem, not only because of differences in linguistic features, but also because of the cultural differences of the English-speaking world. In spite of this, there is a great interest and demand for English courses in the rural areas of the country.

Kenya is headquarters for one other important organization. The African Adult Education Association acts as a clearing house for information on all forms of adult education on the continent. It has long championed the cause of literacy in Africa, and offers training seminars on literacy and learning materials, and recently sponsored a writers' workshop. Its basic interest is environmental and rural development through mass

media. It also acts as a mediating agency between anglophone and francophone Africa, and supports member organizations in sixteen nations. It produces a series of small books and pamphlets on the preparation of teaching materials, establishing a reference library, and adult educational psychology for teachers. These pamphlets are produced in a simple language without technical or educational jargon, and are available in English and French.

Seychelles

The Republic of Seychelles is a nation comprising some ninety-two islands lying 1,000 miles off the east coast of Africa, in the Indian Ocean. The main island, Mahé, contains the majority of the population, which was estimated in 1984 to be 0.1 million. Most of the inhabitants are descendants of French settlers who arrived in these uninhabited islands, along with their African slaves, in the eighteenth century. Admixtures of Chinese, Indian, and European complete the ethnic composition of the islands. Seychellois Kreol is the first national language. English and French are also listed as the other two national languages. The nation is a one-party socialist state.

The government of Seychelles is another which is committed to a program of mass literacy. Sweeping educational reforms have been under way since 1977, including major decisions to stress the study of languages, to elevate the local French-based creole to national language status, to initiate the use of Kreol as the language of primary school instruction, and to provide adult education by mounting a functional literacy campaign.12

To accomplish this task, the combined efforts of the Ministry of Education and Information and the National Institute of Pedagogy formed the Seksyon Kreol, a team of eight curriculum developers, two graphic artists, and four secretary-typists. These full-time workers, and a pool of part-time assistants, were responsible for the development and printing of all Kreol materials for the primary school program. The Seksyon Kreol, the Ministry, and

the pedagogical institute collaborated to standardize an orthography and develop a dictionary of Kreol, and are presently finalizing a grammar of the language. The research and materials developed by the Seksyon Kreol were made available to the staff who were writing the adult literacy program. The Ministry has an entire section devoted to adult literacy, not only for Kreol, but for English as well. One of the goals of this bi-lingual venture is to provide an education sufficient to lead to a high school diploma, and to prepare adults for advanced study overseas. This section which is part of the Division of General and Technical Secondary Education of the Ministry, develops its own materials and trains teachers in literacy and adult education techniques. A large print shop on the premises prepares and distributes all of the literacy section's materials. The section has a small complement consisting of four full-time staff members and three public school teachers who assist, on a part-time basis, in developing the courses. All literacy classes take place after working hours. Since the country has no community centers, the classes must be offered in public school buildings. Teachers involved in the program are paid for their work in both the literacy classes and regular daytime classes. These teachers are trained during school holidays. The usual courses in adult education techniques, literacy, and materials development, are stressed. In 1980, there were four schools open as literacy centers on the main island of Mahé. By 1981, thirty-two teachers had been trained and were in service. The government plans to expand the number of centers to sixteen. The twenty centers will be able to teach 400 adults during each session. Other language courses are offered to adults, including French, Russian, and Spanish. A course in Kreol for foreigners is also offered for those non-native speakers who reside in the islands.

Classes meet two or three times per week, depending on the course and level of instruction. Each class lasts one and one half hours per session. There are three levels of instruction. Level One is for illiterates, Level Two for semi-literates, and Level Three for literates who already have some knowledge of English or French. All levels begin with instruction in Kreol. Materials are produced for each level. Teacher's manuals accompany the

units (See Figures 11 through 15). Methodology consists of teaching in a sequence from sound to syllable to word. Each unit for Level One consists of several aural/oral exercises. The unit begins with "key sounds." These isolated sounds are pronounced by the teacher, who then asks the participants to give words in which the target sounds are located. Choral and individual recitations continue for the target sounds, then for the words in which they occur. This is done in order to teach the participants how to focus on a particular sound although it is embedded in a word. The target letters of the unit are introduced and matched with their sounds. When the students acquire a facility for matching sound to symbol, the teacher gives a dictation, focusing not only on the entire word, but on the isolated sound under study. The next step is the teaching of consonant-vowel syllables utilizing the same aural-oral-writing approach as before. The syllables are then reduplicated, producing two-syllable nonsense words, i.e., bibi, bobo, bebe, boubou, etc. When the success rate is at a high point, the teacher will mix the syllables together, to produce forms such as bibo, bebou, boba, etc. A second dictation is administered to determine the students' progress. Early units of Level Two proceed in the same manner, but quickly advance to longer sentences. The units for Level Three contain many dictation and review exercises, and contain new exercises which require free construction of sentences and short paragraphs.

This program is also based on the frequency of occurrence of consonants and vowels. Vowels are introduced first, in the sequence i, o, a, e, ou. The consonant series begins with l, t, b, k, f. Syllables follow the same methodology. CV syllables of the type li, lo, la, le, lou, are introduced first, followed by ti, to, ta, te, tou. Statistics from the literacy section show adult progression from the illiterate to the literate stage in an average of seventy-two hours of instruction, based on three hours per week. Another year and one half is required to attain the second stage of literacy in English. An adult Seychellois can become literate in two languages within a two-year period.

The literacy section also provides a large amount of post-literacy material in both Kreol and English, so that the newly-acquired skill of reading

Figure 11. Cover of elementary Kreol reader, Seychelles.

San 'b'

	a	e	i	o	ou
'b'	ba	be	bi	bo	bou

Ma :

bel	boul	bal	bol
bake	latab	labou	tablo
tablet	bout	labek	laboutik
tabli	kaba	bouk	labib
blok	bibouk	boulet	bouke

Eraz :

1. Bibouk i lo latab akote ou labib.
2. Bol ble i lo latab.
3. Lia i obei loulou.
4. Bol katkat i lo latab.
5. Ou kaba i lo bake, akote tabli.
6. Tib lakol i lo tabli.

Figure 12. Page from elementary Kreol reader, Seychelles.

LIV KALKIL
POU PARTISIPAN (Kontiniasion)

APRANN KALKILE OU A SAPE

Seksion Alfabétizasion
Minister Lédikasion
ek Lenformasion - Mae
Répiblik Sésel.

Figure 13. Cover of basic arithmetic text, Seychelles.

52

4) Met sak sa bane liméro kot i dévré gagne plasé.

23, 40, 15, 37, 6,

a) 10, 20, 30, ____, 50.

b) 13, _____, 33, 43, 53.

c) ____, 16, 17, 18, 19.

d) 17, 27, ____, 47, 57.

e) 2, 4, _____, 8, 10.

5) Rod sa liméro ki manké apré sak séri liméro.

1) 16, 17, 18, ___, ____.

2) 35, 36, 37, ___, ___.

3) 59, 60, 61, ___, ___.

4) 76, 77, 78, ___, ___.

5) 85, 86, 87, ___, ___.

6) 96, 97, ____, ____.

Figure 14. Page from basic arithmetic text, Seychelles.

Figure 15. Cover of teacher's manual for elementary arithmetic class, Seychelles.

Figure 16. Post-literacy Kreol reader to teach the Metric system, Seychelles.

REPUBLIC OF SEYCHELLES

ADULT EDUCATION PROGRAMME

STAGE 2

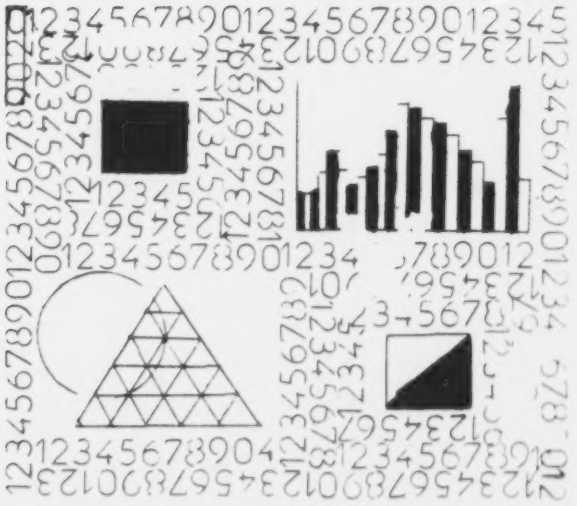
Ministry of Education & Information
La Bastille, P.O. Box 48
Mahe
Seychelles

Figure 17. Cover of post-literacy English pamphlet, Seychelles.

REPUBLIC OF SEYCHELLES

ADULT EDUCATION PROGRAMME

MATHEMATICS



Ministry of Education and Information
La Bastille
P O Box 48 Seychelles Republic

STAGE 2

Figure 18. Cover of post-literacy reader in English, Seychelles.

will not deteriorate from lack of use. Materials are available in a variety of subjects, including the Constitution of the nation, personal health and hygiene, child care, advanced arithmetic, the Metric system, and other subjects geared toward the improvement of one's life (See Figures 16 through 18). The local newspaper publishes in the three languages of Kreol, English and French.

NOTES

[1] See Joseph H. Greenberg, The Languages of Africa, Bloomington: Indiana University Press, 1966.

[2] Ba Tarawale, Fatumata Sidibe and Lasana Konteh, Mandinka English Dictionary, Banjul: NLAC, 1980.

[3] Edmun B. Richmond, "The Development of a National Literacy Program: The Gambia Project," Language Problems and Language Planning, 6,2 (1982), pp. 154-165.

[4] Report from the Seminar on the Formulation of a National Literacy Strategy, Banjul: Non-Formal Education Centre, 1981, p. 8.

[5] Seminar Report, p. 11.

[6] Two opposing orthographies were submitted. See S. Sidia Jatta, Defined Orthography for Gambian Mandinka, Banjul: Curriculum Development Centre, 1979; and Bakary K. Sidibe, A New Orthography of Gambian Mandinka, Banjul: NLAC, 1979.

[7] Edmun B. Richmond, "Two Strategies for Selecting Vocabulary in Third World Literacy Programs," Reading Improvement, 22,1 (1985), pp. 41-49.

[8] Emmanuel Williams, ed., Defined Orthography of Gambian Wolof, Banjul: NFE Services, 1981.

[9] I. J. Gelb, A Study of Writing, Chicago: University of Chicago Press, Phoenix Edition, 1963, p. 208.

[10] Gilles-Marius Dion, Enquête et Etude pour une Méthode d'Apprentissage de la Lecture et de l'Ecriture de Kinyarwanda par des Adultes Rwandais, Kigali: Rafiki, 1980.

[11] Ibid, p. 2.

[12] See Edmun B. Richmond, Language Teaching in the Indian Ocean: Policy and Pedagogy in Three Developing Nations, Lanham: University Press of America, 1983, pp. 25-36.

CHAPTER III

ADULT FUNCTIONAL LITERACY IN MALI:

A LONGITUDINAL EXAMINATION,

1959 - 1988

The Republic of Mali is a land-locked nation in West Africa. Its size is somewhat larger than Texas and California combined, with approximately 478,000 square miles. The northern half of the country is situated in the Sahara Desert. The Sahel region is located to the south, giving way to savanna lands in the southwest. Three different weather zones are distinguishable. A dry season, dominated by a mass of Saharan air, causes temperatures to approach in excess of 50 C from March to the end of May. A rainy season exists between June and October, with a humid wind penetrating from the southwest, and bringing average highs of 32 C. A cool, dry season ranges from November to February, with temperatures between 14 C and 25 C. Mali is bordered by Senegal and Mauritania to the west, Algeria to the northeast, Niger to the east, Burkina Faso to the southeast, Ivory Coast to the south, and Guinea to the southwest. The greater area of the country spreads west, north and east of the great bend of the Niger River. The country is basically rural with over 11,000 villages. Bamako, the capital, has an estimated population of 404,000. Other cities with populations of 40,000 and over include Kayes, Ségou, Mopti and Sikasso.1 An official estimate of the population at mid-year 1981 was 7,160,000 with 14.8 inhabitants per square mile. The country is politically divided into seven economic-administrative Regions, i.e., Gao, Kayes, Koulikoro, Mopti, Ségou, Sikasso and Tombouctou, plus the district of Bamako. These are sub-divided into forty-seven cercles and into 280 arrondissements. Major identity groups are the Pulaar, Tuareg, Songhai, Senufo, Sarakole, including Marka, and Mande, including Bambara, Malinke and

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Juula. Other groups with smaller populations are also extant (See Table 1). The two major languages of the country are Bambara, of the Mande family, and Pulaar, of the West Atlantic family.2 The official language of the country is French. The Bambara-Malinke-Juula complex exists over a large area as a lingua franca.

The territory was part of French West Africa during the colonial era, and was known as French Sudan. In 1959, the colony was renamed the Sudanese Republic, and joined Senegal as part of the Mali Federation, which became independent on June 20, 1960. Due to friction with Senegal, the Federation was dissolved, and the area became the Republic of Mali on September 22, 1960. Touré discusses the tone of education after independence, citing reforms which were to produce "a Malian school system distinct in character and purpose from the colonial system."3

One of the first educational priorities of the new nation was the development of a mass literacy project geared toward adult functional literacy. First attempts at literacy classes were begun in 1959 in the French language. Although accurate data are not available, it appears that the French language program proved unsuccessful, since French was a foreign language to the participants. A UNESCO mission visited Mali in 1965 to assist the government in establishing a pilot functional literacy program in local languages. By January, 1967, nine literacy experts from UNESCO and UNDP were assigned to the project. France and the United States also provided financial assistance to the project. The United States further provided evaluation of the program in the rural areas of the country.

The UNESCO/UNDP Plan of Operations, signed in February, 1967, stated two prime objectives of the program. The first was to reinforce a national center for the production and distribution of literacy materials, so that these materials would be available to 100,000 rice and cotton farmers, and to 10,000 workers in state-owned industrial and commercial enterprises. The second objective explored and tested the most suitable methods and techniques for the training of illiterate farmers and workers for the purpose of improving their

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productivity and raising their standard of living. The plan would be national in scope, with Mali contributing the major part of financing as well as supplying the managerial personnel. Certain methods and materials were to be developed and tested in pilot programs where the government had developed specific enterprises in the production of peanuts, rice and cotton.4 Instruction was to take place in the mother tongue of the participants, or in the lingua franca of the area in which the pilot study was conducted.

The concept of literacy and its relation to a total national policy was carefully studied by the Mali Council of Ministers. In 1967, the Council selected four indigenous languages to be utilized in the literacy program. These languages were Bambara, Pulaar, Songhai and Tamashek. In addition, the Council passed a decree which granted official status to a new orthography which used an identical alphabet for all four of these languages (See Tables 3 and 4).5 As a result of this decree, vocabulary and transcription commenced in Bambara, and its related languages, Juula and Malinke. Programs in these three Mande languages were developed because of their wide use in the regions where peanuts, rice and cotton are cultivated. In spite of this attention to the use of indigenous languages in the rural areas, the French language was nevertheless still used in the literacy programs connected with the industrial sectors.

During the 1967-68 period, studies were carried out in conjunction with UNESCO/UNDP's Experimental World Literacy Program, which required that certain demographic information be obtained as part of that organization's external standards. One of these surveys led project officials to choose cotton production as an initial sphere of demographic inquiry. Commencing with the 1969 classes, a baseline survey was conducted to obtain pertinent demographic information of the target population. The survey was conducted in sixty-four villages, with thirty-two villages in a control group and an equal number in the experimental group. Each group was further divided into subcategories according to the size of the community, the role of cotton production, and the linguistic profile of the target population. Specially trained field workers collected data covering ten families in each

village. The collection of data was accomplished by utilizing an extensive interview schedule and an observation sheet. During the analysis of the collected data, difficulties arose due to fluctuations in the number of literacy centers. New centers were opened in the control area and other centers were closed in the experimental area. The analysis of the baseline data took one year to complete, because only one international expert was engaged in this task. Furthermore, slow implementation of literacy activities made it impossible to conduct the interim surveys as projected for the summer of 1971. Even a year after the data were collected, the number of centers which had actually completed their programs was too small to permit a valid survey. Nevertheless, a survey of the population of certain villages not served by literacy centers shed light on non-literacy variables which were involved in changes in socio-economic behavior. These data would be useful as controls in later studies of changes in villages in which literacy classes had been undertaken. A special study was conducted in an industrial setting on the learning level achieved by the participants of the 1965 program. The data pointed to the need to reorganize the program to assure more homogenous groupings and closer attention to the selection of additional workers for further vocational training related to the project.

In 1969, the program was integrated into the General Directorate for Fundamental Education and Literacy, a unit under the administration of the Ministry of National Education, Youth and Sports. The functional literacy service was managed by a national director who was responsible for the production and dissemination of literacy material. The actual operation of the literacy service was subdivided into seven regions, each of which was headed by a director. A local literacy committee was established at the village level in order to make the villagers feel that they were taking charge of their own destinies. This position succeeded because villagers were able to input their local needs into the program. At the end of the project, numerous local organizations agreed to finance and take over the operation of future literacy activities.

In order to develop literacy courses in terms

of relevance to village life, an approach was initiated in which selected problems of daily life became the central didactic core of the literacy units. These problems were chosen after conducting baseline surveys and problem studies in the field. Problem areas such as making seedbeds, reading a scale, fertilizing schedules, village and personal hygiene, irrigation, family planning, first aid, well digging and water purification were delineated. A program for peanut farmers, called Opération Arachide, was initiated in 1969. This program utilized literacy units in conjunction with the most pressing problem as perceived by the farmers themselves, i.e., their distrust of crop marketing agents. In the past, marketing was conducted through private tradesmen who quite often cheated the farmer in payments for harvests. The literacy program taught the farmers to read the numbers on the beams of the scale, thereby allowing the farmer to check marketing operations. This and other problems were presented as the pedagogical vehicles and the learning process itself was integrated into the coursework as a means of solving these problems. Dumont views this as the key to success of the Mali program.6 This technique was ultimately accepted by the various development ministries in the country, thus ensuring each ministry's acceptance of responsibility for the development of literacy-related activities within its own sphere of operation. This had the effect of decentralizing literacy activities and placing more responsibility on the community-based organizations and enterprises.

At this juncture, it was possible to link up functional literacy with several operations, including five rural development organizations concerned with rice, peanuts, cotton, tomatoes, and a river project on the Niger, as well as four State-run enterprises concerned with electrical power, transportation, textiles and the production of matches. The project included eighty-one arrondissements of the then 250 in the country, and fourteen cercles of the forty-two nation-wide. At the conclusion of the project, it was estimated that 2,000 literacy centers were in operation. However, since some of the centers would remain open for a time, then close, and because of inadequate reporting procedures, it was impossible to establish an accurate figure.

About 2,000 instructors were trained for the project. Over ninety percent of these were of the same professional and demographic background as the participants. Six percent were professional foremen and one percent were primary school teachers. 95 percent were male, and five percent were female. The most disturbing statistic was that ninety percent of the instructional population had not completed primary school! The selection of teachers was made by the local community or by the local production unit on the basis of their own social and educational status. A training session of from three to five days was organized for the selected instructors during which time they were introduced to adult educational teaching methods and to the various types of literacy materials and how to present them. Much of the time was devoted to actually developing class materials. In addition, international experts brought into the country began training a group of Malians to specialize in linguistics and in the preparation of educational materials. These trainees eventually constituted the staff of the Direction Nationale de l'Alphabétisation Fonctionnelle et de la Linguistique Appliquée (DNAFLA), which was created by governmental decree in 1975.7

By the end of the project, some forty-five supervisors were working in the Functional Literacy Zones. Such a zone, or Zone d'Alphabétisation Fonctionnelle (ZAF), was, in principle, organized to coincide with an arrondissement, the smallest administrative unit in Mali. The arrondissement is also used as a model of formation for the Rural Expansion Zone, or Zone d'Expansion Rurale (ZEF). Both of these organizations cooperate in the implementation of literacy projects. Each ZAF supervisor directed as many as fifty literacy centers. In order to reach each of these centers, many of which were in remote corners of the country, the supervisors often had to travel by motorcycles which were provided by the program. These supervisors worked under the management of the seven regional directors of the National Literacy Service. Until the end of the project, both participants and volunteer instructors received varying amounts of World Food Program commodities as incentives and payment for their participation. These commodities were presented to the participants and instructors

at a small ceremony at each literacy center.

Total costs for the project are shown in Table 2. The actual expenditure of the Malian government appears low when compared with the original planned estimates, but this may be due to several factors. The government stressed local volunteered participation in the construction of literacy facilities and in the staffing of the program. Although incentives in the form of World Food Program commodities were used to attract volunteer teachers and participants, the cost of these foodstuffs was not included in the cost figures. If all contributions had been included, the total cost would have been somewhat higher, and the government contribution substantially elevated.

Based on identifiable cash-flow expenditures, the cost per enrolled participant was $13.58, and per program-exit participant, i.e., one taking the final examination, was $34.63, of which UNESCO estimated about one half was used for research and evaluation purposes and the remainder for operational expenses. These figures more or less agree with estimates in final project reports that it cost approximately $30.00 to bring an illiterate through the program to a point equal to a fifth grade reading ability and somewhat less in writing and arithmetic ability.

Approximately 2,000 literacy centers were established between the onset of the project in 1967 and 1972, with about forty participants enrolled at each center. Some 83,000 adults attended the classes with about 50,000 completing one of the literacy courses. Exact statistics were difficult to keep during the early phases of the program due to problems in establishing a comprehensive data-keeping system. That system was finally operational in May, 1970. A survey in early 1972 showed that only fifty-five percent of the reported centers were actually operating due to fluctuations connected with the local agricultural cycle. Enrollment also fluctuated at these centers due to the same cycle. Participants involved in cotton production made up 60 percent of the classroom population, while participants in peanut production showed thirty percent. The Office du Niger, a Niger River development project contributed seven percent, while those involved in rice production contributed

three percent. The dominant demographic group in the total program was the young male between fifteen and twenty-five years of age. Only five percent of the total population were females. During 1970 and 1972, a special pilot program for women was established but resultant data are unavailable. Many participants left these programs between February and May to migrate to the city in an attempt to earn money from the sale of crops. This diminished the progress at the literacy centers. The linguistic homogeneity of the groups was high with the exception of the Ségou region which required special adjustment for the Bobo ethnic group.8 In most other groups, a language of the Bambara-Malinke-Juula complex was used by the participants. In the preparation of course content and materials, the project officers had assumed that the educational and technical levels of the participants were approximately the same. Unfortunately, no precise information had been kept, but perceptions of the center leaders were that educational and technical levels varied to extremes. UNESCO/UNDP assistance terminated in 1973.

A 1974 World Bank mission attempted to assess the impact of the project on the basis of such indicators as were available after the conclusion of UNESCO/UNDP assistance, especially in the area of peanut production. The mission discovered that the functional literacy program was still in operation despite withdrawal of UNESCO/UNDP and the World Food Program. Activities within the Opération Arachide project, according to an opinion survey, were especially appreciated for their community character, their linkages with daily life, and their use of local languages. Logistical problems continued to be encountered and another reorganization of functional literacy was under way at that time in preparation for further assistance from France, Canada, and the United States, in collaboration with the World Bank. Although the World Bank mission reported that a rigorous evaluation of the impact of functional literacy in Mali was not possible, certain information did surface as a result of their survey. The participants ranged in age from fifteen to fifty, and attended the classes for utilitarian as well as prestige reasons. The volunteer teaching assistants and organizers, known as Animateurs, who came from each village had also participated for the same

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reasons. The leaders of the production units found that the literate workers became more productive because they were able to understand agricultural extension ideas, and could better understand marketing procedures. Many who were involved in the program felt that the government did not give enough priority to the program. Many asked that the teachers be paid for their services and that the literacy centers be better equipped. The World Bank report notes that productivity was consistently increased in areas served by functional literacy programs, but was cautious in suggesting that functional literacy could be determined as the causal factor.

As a result of these many baseline studies, pilot programs, and the assessment of the World Bank, the Malian government, in 1975, formed the Direction Nationale de l'Alphabétisation Fonctionnelle et de la Linguistique Appliquée (DNAFLA). The functions of this organization included the management of the functional literacy campaign, and the development of a total adult education program oriented toward Malian cultures and ideals. DNAFLA would comprise five subdivisions including the National Administration Office, the Division of Linguistic and Pedagogical Research, the Division of Functional Literacy, the Center for Materials Production, and the Office of Regional Services. In 1979, the government authorized a full national literacy campaign to combat illiteracy. The campaign was placed under the supervision of the Ministry of National Education (MEN), and enlisted the cooperation of the Opérations de Développement Régional (ODR). By 1980, full literacy programs were begun and implemented in 1500 centers which recorded 35,000 participants. As of 1983, 3,500 villages were enrolled in literacy programs within the framework of the ODR. The centers were located in five of the country's regions, i.e., Kayes, Koulikoro, Mopti, Ségou and Sikasso. In order to accelerate the process of eradicating illiteracy and augmenting rural development programs, DNAFLA envisions attacking the problem with programs directed in villages already registered as part of the ODR, but not yet possessing their own literacy program, and in villages in the two regions of the country which are not registered as part of the ODR. Programs in these regions would be geared toward cooperatives and nongovernmental organizations. The

two regions in question are Gao and Tombouctou, both located near, and to the north of the great bend of the Niger River.

DNAFLA has experimented with a new intensive method of presenting literacy materials, the results of which tend to confirm two hypotheses previously formulated. The first hypothesis dealt with the training of the literacy teachers. Malian officials were convinced that a seminar of two weeks duration was sufficient to train literacy teachers who had already become literate in the French language. Persons with this training came from educated backgrounds and possessed technical or administrative competence from the Ministry of National Education, the Ministry of Health, the ODR, university students, and those having completed secondary school. The training involved introduction to the transcription of the national languages and to the production of classroom materials and texts necessary for the post-literacy period. The second hypothesis focused on the participants. An intensive functional literacy course of thirty days, consisting of six hours per day, five days per week was deemed sufficient for the participants to acquire basic skills in their mother tongue. These skills included reading, writing and numeracy. This hypothesis took into account the condition that the course was taught by competent teachers and animateurs. Seminars of this type were used to train 2,400 teachers from the MEN and ODR as well as 1,000 university students and pupils from the Bamako district. DNAFLA is further counting on a potential 5,000 animateurs to be available at the village level. DNAFLA also developed rules of orthography and literacy materials for two additional indigenous languages, Dogon and Sarakole. Materials became available in reading, writing and numeracy, as well as teacher manuals, guidebooks for transcription, dictionaries and lists of scientific terminology. This production task was followed with materials for four additional languages including Bobo, Bozo, Minianka and Senufo. This brought the number of local language literacy programs to ten.

Future objectives of the functional literacy program are to open 2,000 centers by 1988. These centers are to be divided in accordance with their location. 240 centers will be established in the

five regions already registered as part of the ODR, and 800 centers will be opened in the two additional regions. The larger number of centers in the regions of Gao and Tombouctou are based on the sparce and scattered population and on the remoteness of villages in these regions. It is projected that these centers will train a total of 50,000 participants with an additional 50,000 to 70,000 participants trained in the regions served by the Office de Développement Intégre des Productions Arachidières et Céréalières (ODIPAC). In the five regions in which ODR is active, the literacy program will be integrated into other ODR activities, notably with the agricultural extension program known as Vulgarisation Agricole. In the two regions not served by ODR, the criteria for program selection will be made at the village cooperative level.

Other five-year objectives include the training of 3,500 animateurs chosen from governmental sources and from local sources from each village; as well as to continue supplementary research and materials development for Bobo, Bozo, Minianka and Senufo; to establish 2,000 libraries and printing shops in the villages; to integrate radio broadcasts into the curriculum by establishing 1,200 listeners clubs; and to increase the production of pedagogical and post-literacy materials to a total of 440,000 pamphlets in four years. This rapid increase in the number of literacy centers and participants presupposes a considerable mobilization of human resources and a multiplicity of approaches which take into account the variables of pedagogical intensity and effectiveness. Three such approaches are envisioned and are termed the Intensive Approach, the Extensive Approach, and the Mutual Instruction Approach. The Intensive Approach concerns the villages encapsulated in the ODR system, but removed in distance from the areas in which active literacy programs are in effect. In each village a group of twenty to thirty participants will be formed and will receive their first training which will be presented by a competent volunteer instructor. This training will take place during the dry season, between October and June, and will last thirty days. The instructor will receive compensation in the form of free housing and a small subsidy. Before the course begins, a sensitization campaign will be launched to

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encourage the villagers to enroll in the program, and to encourage them to provide a building and furniture for the literacy center as well as to provide certain expenses to commence operation of the center. The retention and enrichment of acquired literacy skills will be assured by the participants themselves, due to their establishing a village library and print shop, as well as to creating a radio club which will receive broadcasts from a special government radio service which beams literacy programs to all corners of the country. Supervision and evaluation of the Intensive Approach will be under the control of the regional offices of DNAFLA.

The Extensive Approach addresses the villages already participating in the literacy program. New centers will be opened and directed by the animateurs who have already been trained in those areas in which previous literacy programs were located. They will be equipped with bicycles to travel from village to village, and although they are volunteers, they will be compensated by their students in the form of services performed on their personal farm plots. The enlargement of the Extensive Approach will be accomplished according to a three-year schedule. During the first year, two animateurs from a village already involved with literacy will not only assist their own village's program, but will direct the literacy center of a neighboring village for six hours per week. At the end of the second year, the best of the newly-trained students will be regrouped for a training seminar of ten days in order that they now become new animateurs. During the third year, the two original animateurs from the first year will open two new centers in which they will teach full time. It is hoped that this type of approach will result in the appearance of literacy programs in 1,400 new villages within the course of the five years of the project.

DNAFLA will further undertake a system of Mutual Instruction. Each neo-literate person will instruct the basic literacy mechanisms to two other persons of the same village. DNAFLA estimates that 100,000 villagers will be reached by this means, but due to expected attrition rates, only fifty percent will complete the course and become literate in the five years of the project. In considering this type

of instructional method, the government plans to institute concomitant evaluative feedback to confirm the efficacy of the approach. If the evaluation of Mutual Instruction proves positive, the method will be incorporated into other regional programs. Training of village teachers appears to be the key to success of Mutual Instruction. A training seminar of fifteen days is envisioned for initiation into the techniques needed to transcribe the local languages, to introduce techniques of teaching literacy to adults, to prepare progress tests, and to study the village environment of daily life. Along with the initial instruction, periodic seminars will be held to reinforce teaching techniques and to impart new methods of teaching.

Since Mali is such an expansive territory with vast areas of separation between villages, the educational radio service will play an important part in the dissemination and reinforcement of local literacy enterprises. Since 1979, a specific radio service which schedules programs directed toward literacy clubs in outlying villages has been in operation. The service provides programs which interface with the local literacy classes. It further is used to assist in the recruitment of new students as well as to help maintain the interest of those villagers already enrolled, and of those who have completed the courses. Transmitters of Radiodiffusion-Télévision Malienne, the government network, are used to broadcast programs in the medium wave and tropical wave bands.

Statistical information regarding the distribution of participants in literacy programs shows an estimated 20,000 young adults of twenty-five years of age or less. Of the total enrollment, only five percent are women. DNAFLA has working programs to capitalize on the former situation and rectify the latter. Two subdivisions were created within DNAFLA's organization to address the needs of these populations. The Jeunes Ruraux has been established as a post-literacy acquisition program for these young adults to enrich their new-found literacy skills through the application of these skills in the areas of solving problems of daily existence such as health and hygiene, agricultural production and marketing, and management of village cooperatives. A pilot study was conducted in 1980 involving four villages in the

peanut-growing zone, two villages in the cotton zone, and two villages in the millet zone. The study was conducted with 120 post-literacy participants representing a global population of some 5,000 villagers. Since these young adults had reached the post-literacy stage, their classes were based on a methodology in the form of theme-modules, which treated some of the day-to-day problem areas mentioned above. In 1981, an extension of this pilot study was initiated with 230 members of the ODR in 140 villages. This new study was effected in two stages. Stage one involved the formation of a body of trained ODR personnel which cooperated with local villagers in teaching classes in agricultural extension, credit systems, cooperative administration of local produce, hygiene, animal husbandry and literacy. This stage was in operation in three ODR zones during 1983, utilizing members of Jeunes Ruraux. The second stage consisted in the application of the classroom work learned in stage one, with an attempt to allow the villagers to operate their cooperative ventures without the assistance of the ODR unless village expenditures became too high. The sole contact by the ODR with stage two villages was to conduct an evaluation of the program. The viability of this method is presently being evaluated to ascertain if this type of teaching is preferrable in the outlying areas to other types of ODR programs. If the program is deemed successful, other villages will be selected from the peanut, cotton and millet zones. The selection of villages is dependent on their possessing village or cooperative associations which are already in operation. The inclusion of the Jeunes Ruraux in the ODR programs is considered vital to the success of the programs as well as to the continued use of literacy skills by the young adults.

Of the 7,000,000 inhabitants of Mali, 51 percent are women, yet in 1977, only five percent of the participants in literacy classes were women. Because of this fact, the Ministry of National Education created the Division de la Promotion Féminine (DPF) as an integral part of DNAFLA to examine the obstacles to education encountered by women and to formulate proposals to combat these obstacles. This division, in collaboration with the Union Nationale des Femmes du Mali (UNFM), and other government rural services, created a program

specifically founded on the socio-economic activities of women. These activities included agriculture, child-rearing, maintenance of the family, labor force occupations, and commercial and marketing behaviors. A division study identified certain constraints which tended to limit women's participation in literacy courses. These were several factors including long and full workdays of housekeeping, carrying water and wood, and working in the fields; an insufficient number of married animatrices or instructors, although more highly motivated to learn reading and writing, young women often leave the program when they marry to live in their husband's village; a high frequency of diseases affecting either mother or children; and an unwillingness of husbands to allow their wives to attend literacy classes with other males. It is hoped that the new programs proposed by the Division de la Promotion Féminine will reverse the withdrawal of women from literacy classes. Successful female participation can only be assured if certain conditions are fulfilled, including the lightening of tasks and burdens of daily existence as well as the augmentation of personal income. A novel experiment took place in five villages in the region of Koulikoro. Several millet mills were built, which on the one hand, liberated the women from one of their most time-consuming activities, the pounding by hand of grains for the daily meals, and on the other hand, allowed them to earn money for the literacy courses from the sale of milled grains.

The experiment exposed 2,000 women in the five villages to the literacy campaign. A literacy center was built in each of the experimental villages, while fifteen animatrices were trained and 215 women were registered in the courses. The experiment was further recorded on video tape and later played in villages across the region. This action, supported by the arrondissement, was a strong motivator for women in forty villages to embark on cooperative activities with the goal of opening literacy centers in their villages.9 As a result of these experiments, DNAFLA retained the strategy of organizing women into cooperative ventures which would lead to the construction of literacy centers and to the offering of literacy classes. The strategy has been enlarged and presently consists of three stages of development. The first stage is to proceed with, and replicate

the experimental study and its evaluation in three directions: (1) the managerial training of twenty-five women in five pilot villages. These women will direct the construction and use of a cooperative mill; (2) the organization of five seminars to teach the process of dyeing, and five seminars to teach the manufacture of soap. These seminars will take place in twenty villages in the region of Koulikoro; and (3) the holding of six seminars to train sixty animatrices for the literacy centers. The second stage will consist of holding seminars for sixty participants on the formation of village cooperatives, and developing post-literacy materials and pamphlets which will aid in the retention of newly-learned literacy skills. In addition, fifteen new literacy centers are planned for the Koulikoro area. The third stage consists of exposing a total of 120 villages, twenty villages in each region, to functional literacy and cooperative venture programs, to train 240 animatrices, to open and equip 120 women's centers, and to train 3,600 participants in the order of thirty women per center, and finally to produce post-literacy pamphlets and materials in the different languages of each region. The DPF is charged with the responsibility to execute this program and will have the cooperation of other regional government organizations. The DPF will manage the program with six persons at the national level, seven persons at the regional level, one for each region, and an average of thirty-five women as external observers per region. The project is to be completed in 1988.

The adult functional literacy campaign in Mali has been in operation since independence and has always been viewed as one of the most successful programs on the continent. Already in its early stages of development in the 1960s, it was considered "organizationally...to have been one of the best programs at that time."10 A brief overview of the main program features can be seen in Table 5.

Table 1. The Indigenous Languages of Mali

Niger-Congo Family

West Atlantic Branch
Pulaar (Peul, Fula, Fulani)*

Mande Branch
Bambara (Bamana)
Bobo Fing
Bozo
Juula (Dyula)
Malinke
Marka
Sarakole (Serahule, Soninke)

Voltiac (Gur) Branch
Dogon
Bobo Gbe
Bobo Wule
Minianka
Senufo (Senoufo, Sene, Siena)

Afro-Asiatic Family

Berber Branch
Tamashek (Tamasheq)

Nilo-Saharan Family

Songhai (Sonraï)

Mali has a small Moorish population whose language is Arabic.

*Other names and spellings found in linguistic and cultural literature.

Table 2. Total Costs at End of UNESCO Project, 1973.

Expenditures US $	Funding Source UNDP	Malian Government	Total
Planned	$1,176,500	$3,070,600	$4,248,100
Actual	1,400,700	1,099,600	2,500,300
Percentage of Planned Expenditure Actually Spent	119	36	59

Source: Evaluation Unit, UNESCO Literacy Division.

Table 3. Alphabet of the National Languages of Mali, Adopted in 1967.

MANDE	PULAAR	SONGHAI	TAMASHEK	MANDE	PULAAR	SONGHAI	TAMASHEK
	ɔ						
a	a	a	a		nd	nd	
b	b	b	b		nj		
	b				ng	ng	
d	d	d	d	ny	ny	ny	
			'd	ŋ	ŋ	ŋ	
	ɗ			o	o	o	o
j	j	j	j	o			
e	e	e	e	p	p		
e							q
			e	r	r	r	r
f	f	f	f	s	s	s	s
g	g	g	g				's
			gh	sh		sh	sh
h	h	h	h	t	t	t	t
i	i	i	i				't
k	k	k	k	c	c	c	
kh			kh	u	u	u	u
l	l	l	l	w	w	w	w
			'l	y	y	y	y
m	m	m	m		ƴ		
	mb	mb		z		z	z
n	n	n	n				'z

Source: UNESCO

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Table 4. Phonological Parameters of the Malian Alphabet.

VOWELS

SHORT				LONG			
i			u	ii			uu
e	ɛ	o					
è		ò		ee		oo	
a				aa			

CONSONANTS & SEMI-VOWELS

	LABIALS	DENTALS	PALATALS	VELARS	POST-VELARS	GLOTTALS
OCCLUSIVES unvoiced	p	t	c	k	q	'
EMPHATIC unvoiced		't				
VOICED	b	d	j	g		
EMPHATIC voiced		'd				
LARYNGEALIZED	ɓ	ɗ	y			
PRE-NASALISED voiced	mb	nd	nj	ng		
FRICATIVES unvoiced	f	s	sh	kh		h
EMPHATIC unvoiced		's				
VOICED		z		gh		
EMPHATIC voiced		'z				
NASALS	m	n	ny	ŋ		
LATERALS		l				
EMPHATIC		'l				
TRILLED		r				
SEMI-VOWELS			y	w		

Source: UNESCO

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Table 5. Mali Adult Functional Literacy Campaign, Timetable of Events.

1959	First literacy program attempted in French language.
1960	Mali becomes independent nation.
1965	UNESCO mission assists establishment of functional literacy campaign.
1967	UNESCO/UNDP project begins.
1967	Four local languages selected for functional literacy; New orthography system adopted for all four languages.
1967-1968	Literacy program in conjunction with ELWP.
1969	Functional literacy integrated into General Directorate for Fundamental Education and Literacy.
1969	Opération Arachide initiated.
1970	Comprehensive data-keeping system operational.
1970-1972	Development of special programs for women initiated.
1973	UNESCO/UNDP assistance terminated.
1974	World Bank assessment of program.
1974	Additional reorganization of total literacy campaign.
1975	Creation of Direction Nationale de l'Alphabétisation Fonctionnelle et de la Linguistique Appliquée (DNAFLA).
1977	Division de la Promotion Féminine established.

Table 5 (continued).

1979	Mali government authorizes full national campaign. Program now under Ministère de l'Education Nationale (MEN) with cooperation of Opérations de Développement Régional (ODR).
1979	Inauguration of specifically-oriented literacy radio service.
1980	Full literacy program operating in 1,500 centers with 35,000 participants.
1980	Pilot study involving Jeunes Ruraux inaugurated.
1983	3,500 villages now enrolled in functional literacy programs.
1988	Projected completion of present literacy activities concluding with general evaluation and production of final report.

NOTES

[1] 1976 census, from Africa South of the Sahara 1983-84, London: Europa Publications, 1983, p. 553.

[2] See Joseph H. Greenberg, The Languages of Africa, Bloomington: Indiana University Press, 1966.

[3] Ahmadou Touré, "Education in Mali," in A. Babs Fafunwa and J.U. Aisiku, eds., Education in Africa: A Comparative Survey, Boston: Allen & Unwin, 1982, p. 191.

[4] For a complete description of these methods and materials, see Bernard Dumont, Functional Literacy in Mali: Training for Development, New York: UNESCO Publications Center, 1971.

[5] Decree number 185/PG RM. The similarity of all orthographic systems for Malian languages is a result of the findings of the UNESCO-sponsored conference in Bamako in 1966, entitled "Meeting of a Group of Experts for the Unification of Alphabets of National Languages." The countries of Mali, Niger and Nigeria were principally concerned. The aim of the conference was to establish and unify the orthographies of several West African languages. This was considered a necessity due to the number of languages which belong to the same family, and to the many languages which were found within each country's borders. Such orthographies would permit a unified, interintelligible graphemic value, not only among languages within a country, but also in surrounding countries with overlapping languages.

[6] Dumont, "Real functional literacy presupposes that what is taught is usable and is used to do technical work better and to promote occupational improvement or innovation-in the form of a solution to the production problem, which is behind the whole process." p. 31.

[7]Ordonnance no. 60/CMLN, 21 October, 1975.

[8]There are three varieties of Bobo, all of which are spoken in Mali. Two of the varieties, Bobo Gbe and Bobo Wule, are listed as Voltiac (Gur) languages, while Bobo Fing is listed as a Mande language. See William E. Welmers, "Checklist of African Language and Dialect Names," in Thomas A. Sebeok, ed., Current Trends in Linguistics, 7, The Hague: Mouton, 1971, p. 784.

[9]Project Mali 77/PO3.

[10]Eyamba G. Bokamba, "Language and Literacy in West Africa," in Robert B. Kaplan, ed., Annual Review of Applied Linguistics 1983, Rowley: Newbury House, 1983, p. 55.

CHAPTER IV

ANALYSIS AND CONCLUSIONS

This monograph has described the adult functional literacy campaigns in seven nations of sub-Saharan Africa. It has examined the historical background to these programs, as well as provided information pertaining to their development and their current directions. It has identified the agencies involved in formulating and implementing functional literacy policies and campaigns, and had delineated the methodological techniques used in the execution of these policies. Although it limits its discussion to the campaigns of seven nations, these programs may be perceived as representative of the process of mounting a functional literacy campaign in other nations as well. Many of the growing pains experienced in one country are the same as experienced in another. One of the purposes of this text is to bring together the individual developmental experiences of diverse literacy programs in separate regions of the continent, and to interrelate these experiences to show common achievements or problems. From this basic information, several areas can be identified for further exploration and discussion.

The role of the government is crucial in helping or hindering a functional literacy campaign. Several governments, such as those in The Gambia, Kenya, Mali, and Seychelles, are supporting these campaigns, and the programs in the latter three countries are flourishing. The large expenditure of time and effort on the part of these three governments is indicative of their perception of the need for adult literacy in today's world. They have not only worked through the logistics of the literacy campaign as to the languages, the regions of the country, the villages, the orthography, the methodology, the training of instructional personnel, and the distribution of postliteracy materials, but also are proceeding with the

implementation of their plans. Mali has gone so far as to develop a projected time-table for completion of its pilot programs and literacy activities. Goodman stresses the need for literacy programs to be socially rooted "in the realities of the communities they serve, and they must relate to real opportunities to use literacy in improvement of the quality of life."1 The Mali program bears out Goodman's assessment. Malian officials have given great thought to their literacy campaign from its onset even before the date of independence. Mali has continued the development of its program and has built a literacy campaign which is both imaginative and innovative, as well as efficient and well-managed.

In The Gambia's case, governmental support was insufficient to form a cohesive program during its formative years. An excessive number of agencies attempted to develop programs independently. Not only was the work reduplicative, but petty jealousies soon surfaced among agencies, so much so that representatives of these agencies could not agree to a unified commitment, nor to the sharing of information and materials. Direct intervention by the government provided the solution. The centralization of the literacy program under the sole control of Non-Formal Education alleviated the problem. It is only since that time that the Gambian campaign has started to grow. Other governments have no direct control of literacy programs, but have expressly or implicitly sanctioned their development by other organizations. Burundi, Liberia, and Rwanda have programs of this nature. The programs in Liberia and Rwanda are church-related and church-sponsored, while the Burundian program is sponsored by the one political party of the country. In effect, the party is an arm of the government, but nevertheless, its business is conducted by private citizens.

In other countries, the government either prohibits or impedes the development of literacy programs. Such is the case in Gabon, where the present government, by presidential decree, refuses to recognize the use of the local languages in any form of education. Until recently, all radio broadcasts in that country were in the French language, but concessions were made to broadcast several hours each day in the local vernaculars. It

is the contention of the Gabonese government that recognition of only one language of government, one language of education will provide unity to the nation and eliminate tribal factionism. From their perception, education and literacy will be accomplished only in French, the official language of the country. Weinstein identifies the condition as one in which "governing elites believe African languages are themselves inadequate, (and that) their lexicons cannot yet provide words to cover all aspects of modern government, science and business. Nor do they believe that one or two can serve to unite a country."2

Senegal, on the west coast, is another country in which the literacy campaign is floundering in governmental regulations. There was direct intervention from then President Leopold Senghor, an avid francophile whose literary and linguistic scholarship is well documented. Senghor objected to the orthographic system for the Wolof language, a project which was undertaken by the African Languages Department at the University of Dakar. He forbade the printing of Wolof in that orthographic notation because he did not agree with the spelling and syllable divisions. Although Senghor has since retired from public office, other problems still exist. No Senegalese literacy programs in indigenous languages may become operative until a presidential decree is issued. Such a decree must state the languages in which programs may be developed, including the orthography, syllabification, and punctuation. Local literacy organizations have developed materials in several Senegalese languages, but are hampered in the use of the materials by the governmental restrictions. In addition, certain factions in the country desire to use the Arabic script instead of the Roman script. Those who prefer Arabic cite its use as a means of writing Wolof for centuries past, as well as its being the religious script of this Muslim nation. Other factions see the continued use of the French notational system as a continuation of French domination which was begun during colonial rule. These adherents favor the establishment of an African alphabet based on the needs of African languages. It is precisely these types of problems which must be addressed and solved. This can be accomplished either by government intervention through the establishment of a literacy department,

or by a literacy committee which has linkage with a governmental organization which will make the decisions needed to initiate and supervise the campaign. It is certain that without governmental sanction and support, a literacy program will not evolve and perform to its highest potential, or it will not evolve at all.

Although centralization of the literacy program will ameliorate its development, experience in early African literacy campaigns, such as in Mali and Tanzania, has shown that the role of a centralized control should be only at the upper echelons. It should coordinate the campaign, train instructors, design and produce learning materials for the classroom and post-literacy stage, make decisions on linguistic matters, and execute studies to determine the success rate of the campaign. It is recommended that the central organization should not attempt to organize village programs, but should leave that function to the project workers in the field, as well as to the villagers, themselves. Project reports show there is greater motivation and less absenteeism if the village participants have input into class management. This is usually left to the village literacy committee and the literacy workers in that village. In this way, the villagers have a stronger sense of relevance between learning and rural production and a sense of solving one's own problems. The decisions to decentralize the organization of the Malian campaign, and to foster local initiative at the village level are the two characteristics which will most likely affect the attainment of terminal literacy objectives established by the Malian government. It is through the offices of DNAFLA and supporting organizations that the literacy campaign truly functions. The importance of this is manifested in the need to take into consideration the various linguo-cultural identity groups located in each region, as well as the consideration of the agricultural and commercial profiles of the area. Since functional literacy classes are directed toward village problem-solving as well as toward the development of the agricultural sector of each region, these decisions become paramount. Decentralization permits an immediacy in addressing local problems which centralization does not permit. The particular courses for the rice, millet and peanut areas can be developed to the exact specifications of each

agricultural area and to the specific needs of each village. All of these requirements vary from village to village. In a nation as large as Mali, and as sparcely populated with several geographical areas, associated weather conditions and growing seasons to be considered, it is ultimately imperative as well as prudent to develop literacy programs in and for the areas in which they will be implemented.

The fostering of local initiative is a key ingredient of any literacy campaign. The sensitization program undertaken by DNAFLA is an attempt to bring literacy awareness to the rural populace. But the sensitization process is more than merely a series of government lectures to rural people. It is a dialog in which both government experts and villagers can discuss local concerns and how the villagers can benefit from literacy skills. If the program is to succeed, the villagers must feel that they are contributing their ideas and efforts into it. With these contributions come the initiative and motivation needed to assure a successful literacy campaign. Chadwick reports that the motivation for literacy is chiefly economic.3 Learning to produce and market cash crops in a more efficient manner through the establishment of village cooperatives demonstrates how literacy can immediately benefit a village. Foster alludes to the perceived economic motivation of literacy in that "literacy tends to be valued for the immediate cash benefits that it is believed to confer."4 This immediate return for the villagers' efforts becomes a high-motivational factor as well.

The instructional content of literacy programs are related to these benefits and are pedagogically perceived as problem-oriented or task-oriented. Problem-oriented programs focus on life problems in the community which can be identified, discussed and solved by the community's own efforts, or solved with outside assistance. These problems form the topics for the literacy courses. Task-oriented approaches deal with subjects such as cause of diseases, principles of nutrition and child care, and how to build a village water well. These subjects are chosen as the topics for literacy teaching. The choice of a methodological foundation for the teaching material appears to be limited to those described in this monograph. Materials based

on syllable type, key words, key sentences, or cultural themes are those preferred, and are usually developed from a photograph or drawing of a familiar item or a familiar daily task. The pictures are labelled with the words that they represent and are taught as whole words and their constituent syllables. Constructors of The Gambian, Kenyan, Malian, Rwandan, and Seychelles programs believe that the syllable is the ideal entry-point to literacy, because the words of their languages seem to segment naturally into syllables. Banathy and Lange endorse segmentation as a reasonable language teaching strategy. "Shorter learning segments may provide the student with an opportunity to work with short-term goals toward which he can progress more visibly."5 Since immediate results are considered an important part of adult education, syllabic segmentation may be a sound strategy for positive reinforcement in adult literacy programs. The fact that so many literacy programs are based on syllabic segmentation may indicate that the program developers are relying on their native speaker intuition in such a decision. Since these workers are developing programs for other native speakers, perhaps their intuitive feelings about their language are a sound criterion on which to base their materials.

Which methodology is best suited for adult literacy programs is a matter of conjecture. There are no empirical studies or statistics to refute or support a particular methodology, or to demonstrate which type of materials is the most efficient in terms of time involved from illiteracy to target-literacy, cost-per-participant, and cost-per-language program. It is quite conceivable that there is no superior method, and that in reality, there are methods, that there may be a correlation between the method used and the language, as well as the orthography. Current results in cross-cultural educational research suggest that other variable may be culturally motivated.6 Findings in these studies may eventually demonstrate that such a program assessment may, in fact, be impossible. Bormuth claims little faith in literacy statistics, "for none of them is based either on careful analysis of the concept of literacy itself or on suitable methods of measurement."7

Orthographical determinations, such as those described in The Gambia, must be considered, and decisions regarding the choice of symbols must be reached quickly, so that materials may be developed and printed. The Gambia did not reach a final decision on the use of ny and ng or ñ and ŋ until well after many literacy materials had been produced in the preceeding years. The decision in 1981 to use ñ and ŋ rendered all past material obsolete. Proponents of retaining the ny and ng digraphs assert that these symbols are used in English, and that the literacy learner would experience less difficulty with these symbols during the transition to the literacy program in English. Moreover, the letters n, y, and g are already on the keyboards of local typewriters, and are included in type fonts in local printshops, and therefore would not necessitate purchasing the new type faces. Arguments in favor of ñ and ŋ lay claim that these symbols are in harmony with similar symbols used in neighboring Senegal, and have been recommended and accepted by other African nations. Venesky considers this notion to be an important decision, contending that it may be more difficult to learn a totally new symbol than it is to learn the significance of a cluster of two existing symbols, but points to a disadvantage in that digraphs increase the average word length in letters, and that they may cause ambiguities in sound-symbol correspondence.8 Venesky's assumption may be pedagogically unjustified. In view of such ambiguities, it may actually be wiser to select a separate symbol instead of using a digraph. For a beginning student, the acquisition of one more symbol is not going to cause a severe hardship. It may further negate any problems of ambiguous letter-sound representations. The Gambian decision to adopt ñ and ŋ was derived from the use of these symbols in Senegal, a country which surrounds The Gambia on three sides, and one in which many of the tribal units are similar. The recent establishment between the two nations of the Confederation of Senegambia might allow exchange of literacy materials which could be used on either side of the border. A drawback of the Gambian decision is that until new type faces can be purchased, each of the two new characters must be hand-drawn on every page. These handwritten symbols often do not appear with the clarity of typewritten or printed material. In addition, many of the characters are overlooked by

the staff member who must ink them in.

The Gambian program contained only two disputed symbols. Other nations experience more orthographical disputes. Liberia is going ahead with its plans to use a plethora of IPA symbols. It is for this reason that the Liberian Language Institute has produced such a small number of literacy materials. The LLI has purchased several sets of type faces for its typewriters, but no printshops in the country have yet done so. Until the printshops order special type fonts, or until the LLI abandons its insistence on the use of IPA symbols as orthographical symbols, production of literacy materials will be delayed and programs will founder. Although the members of the Bamako Conference favored the use of certain IPA symbols, most nations, after experiencing the above problems, have rejected their continued use on economic grounds. It is simply too costly to purchase new type faces with the little money made available. While this may not be the case in every country, it is certainly true that adult literacy budgets are not among the highest educational priorities. Purchasing new type fonts cuts deeply into such modest budgets. Whatever the motivation, orthographical decisions must be reached and should be considered final and irreversable, so that the production of materials can proceed.

One further point regarding orthographies should be made. Functional literacy programs should teach printing, and only printing, as the target form of script. Cursive forms should be avoided. The pitfalls experienced in teaching of both forms in the Burundian and Rwandan programs can be averted by teaching printing. Functional literacy is basic literacy. It has no place for a cursive script, which complicates the learning task by a factor of two. By teaching only printed forms, the learning task is reduced by half, and time of terminal literacy acquisition is likewise reduced. In addition, the teaching of printing will allow optimum transfer of reading skills to typewritten materials, as well as printed material. Printing most closely approaches the type of writing seen in government documents, public notices, posters, extension bulletins, etc. Cursive forms are superfluous and unnecessary.

The use of mass media, especially radio as a support system to adult literacy programs, has always been considered an important component of the total campaign. While newspapers, extension pamphlets, and other printed information are needed during the post-literacy period, radio is an invaluable tool during all phases of the program, including the pre-literacy, instructional, and post-literacy periods. The factor that makes radio invaluable is that it can reach so many people scattered across the country. The advent of battery-powered transistor portables has made this possible. It is the one avenue of communication that is not dependent on the nation's infrastructure. Radio waves do not need roads, rivers and railways to reach their target. They travel everywhere and they travel immediately. Burke writes, "Since most non-literate people receive a great deal of their information by word of mouth rather than by reading, radio takes advantage of the listener's predisposition to the aural mode and puts it to good use."9 Several nations have been using radio in conjunction with adult literacy. The Gambia uses its national network to advertise and promote its literacy courses and to recognize village achievements in establishing working programs. The use of radio for actual coursework has not been undertaken as yet. Burundi, Kenya, and Rwanda have been using radio for educational programs, but they are directed to populations other than limited just to adults.10 The most ambitious and best managed radio service is that of Burkina Faso, which has a separate radio division expressly designed to provide information and education to a population with a 95 percent illiteracy rate.11 Mali is developing its literacy service along these lines. Cost-effectiveness is certainly a consideration in the use of radio. Most nations already possess a national radio network, complete with technical and production staff. Literacy programs disseminated by this means reach a large segment of the population and do not require a large initial cost outlay. Literacy personnel work with the production staff of the network to develop the most effective material for broadcast. After the broadcast is finished, follow-up classes in the villages respond to the broadcast and develop the central theme as part of the evening's literacy activities. Radio broadcasts are used in several nations as a means of continuing education for their

teachers who are unable to attend in-service classes in the larger cities. Radio cannot only reach a large number of people, it also has the potential to teach a larger number of people.

Other logistic problems continue to plague literacy programs. Lack of distribution of materials in advance of their use in classes brings frustration on the part of all concerned. The field teachers must have the material in advance of the date of use, so that they can become familiar with it in order to maximize its usage in class. Often, the materials are not completed in time by production personnel. Often, the material is not delivered in time due to limited infrastructure, vehicle breakdown, or lack of gasoline. The Gambia is a small country with a relatively flat countryside along the valley of the River Gambia. The country is 250 miles long. Only two paved roads, one on each side of the river, reach 200 miles into the interior. There is also river boat traffic as far as the point where the paved roads end. Although many villages are located along the river and roads, many more villages are located in the bush, and can be reached only by dirt trails. During the rainy season, these trails are virtually impassable by vehicle. In addition, the country has an acute shortage of gasoline and spare parts for vehicles. When gas is available, it is expensive. Burundi and Rwanda are also small countries, but they are extremely mountainous. Paved roads are limited and most land travel must be negotiated over rough washboard trails. Kenya has over 3,000 miles of all-weather paved roads, Mali a mere 1,000 miles. The more remote areas are reached only over rough and unpaved trails. Land travel in the rainy season is difficult. Mali does have boat traffic on the Niger River, but the majority of villages are scattered away from the river. Most of Liberia's roads are along the coastal strip, while unpaved roads lead into certain parts of the forested interior. Air travel is also available on a limited basis by internal services of the national airlines or private air taxis. Seychelles is in a different situation. Most of the population is located on the main island of Mahé. Other islands are reached by boat or air taxi. In spite of these problems, a successful literacy program must develop contingency plans to assure that classroom materials reach the villages on schedule.

A condition observed at the outset of most literacy campaigns was a high attrition rate among teachers and students. The high rate of teacher separation was attributed to a lack of understanding of the methodology and techniques of teaching adults. In their haste to get programs going, literacy leaders would offer a short initial training period. Many teachers could not relate the theory of these seminars to the practice in actual adult classroom situations. This frustration transferred to the students whose expectations for learning were not fulfilled. The disenchanted students failed to appear for class, which prompted teachers to lose more confidence in their ability. As teachers dropped out, new teachers were recruited to replace them, but this caused a period of discontinuity in the daily class work. The importance of teacher training was emphasized and program leaders began to extend initial training to longer periods, and to require in-service training at regular intervals. Constant evaluative feedback in the programs assisted in determining the frequency, length, and subject matter of the in-service workshops. Such evaluation is a necessity to insure the continued success of reaching terminal literacy goals under optimum economic and temporal expectations.

Economy of program and time-span to reach terminal literacy skills must remain prime objectives, and must be taken into consideration in light of the lack of funding available in most countries. Funding expectancies in terms of cost-per-participant and cost-per-language must be caluclated. Bhola describes the preference of cost-effectiveness analyses over cost-benefit analyses because of the latter's propensity toward intangible variables.12 By utilizing local volunteers and animateurs, Mali is able to reduce monetary expenditures. Cost-per-participant is diminished in part by the use of the volunteers, and in part by integrating the literacy campaign into the infrastructure of the various local cooperative enterprises. The monies earned from these ventures can be recycled in part into the village literacy program. By keeping costs down the continuation of the campaign is more likely to be sanctioned by the national government. In the Mali program, the animateurs not only act as teaching assistants, but

also as teachers in conjuntion with the Mutual Instruction technique. This has the dual function of allowing a former student to perform the duties of a teacher, consequently reducing the expense of hiring certified teachers, but also as a psychological function which allows the learner to be trained by a village member of his own ethnic and linguistic background. Training by an outsider can lead to suspicion and resentment. These sentiments are eliminated when instruction occurs within the framework of similar needs of members of the same village. Peer instruction is perceived as beneficial not only to the individual, but also as beneficial to the village as a whole.

Kenya has reduced its cost-per-language by combining the programs of several languages which have similar linguistic features. The Gambia has limited its program to the languages of the three dominant ethnic groups. Burundi, Rwanda, and Seychelles are in an enviable position in that theirs are societies with a high degree of linguo-cultural homogeneity. Burundi and Rwanda form a cultural continuum in which the same language is spoken. In spite of officially referring to the language in terms of the name of the country, it is the same, with only dialectical variations. This would seem to be another opportunity for the literacy programs in both of these countries to cooperate and develop materials that could be used by both. It is most likely, however, that this will not occur until both governments formally establish national literacy organizations. The present privately run programs do not have the authority. In Seychelles, Kreol is the language of the archipelago. For these three nations, the cost-per-language program is in ideal balance with their cultural entities.

Mali's concern and attention given to women's acquisition of literacy skills is another component which is integrated into the total complex of their campaign. Two circumstances of daily life in Mali, and in other parts of Africa, as well, can either prevent or retard women's participation in literacy classes. Traditional divisions of labor in West African cultures dictate the performance of certain tasks by women, including the rearing of children, cleaning the area of the living compound, washing clothes, pounding grain and preparing meals,

gathering firewood and water, cultivating rice, weeding and hoeing in the fields, and selling food surplusses in the local cycle of markets. These, and other activities, leave little time for participation in literacy classes. The second circumstance is one of the Islamic belief that women must not be viewed by males outside of the family. This produces a strong resistance among males against allowing their wives and sisters to attend mixed literacy classes. This resistance could be avoided by presenting classes which are exclusively for women. Such classes would only complicate the logistics of the literacy campaign and increase expenses, however, it may be the only solution in an area so deeply ingrained in Islamic traditions. In Mali, DNAFLA, in collaboration with the UNFM, is attempting to lighten the burden of daily existence, so that women will have the time and energy to attend literacy classes. In addition, the establishment of village grain mills will allow women to rid themselves of one daily time-consuming task, and at the same time allow them to earn some cash from the sale of the surplus milled grains and cereals.

The production and dissemination of post-literacy materials remains a high priority. People must have materials to read if they are to retain their newly acquired skills. Reading materials should continue to be functional in nature, but other types of material should also be made available. The Gambia's materials based on local oral history provide reading of familiar stories. Other forms of post-literacy materials should include dictionaries and grammars. Dictionaries must be developed along descriptive lines and must be preceeded by studies in frequency of occurrence of the vocabulary of the language. Basic dictionaries can contain the most frequent 1000 or 2000 words of the language. Longer dictionaries can follow at a later time. Other dictionaries can include cross-language volumes based on the local languages and the official language of the country. Grammars are in development, but are usually relegated to a low priority in the hierarchy of materials to be developed, depending on the number of languages targeted for the literacy campaign. Such grammars would be more practical in Burundi, Rwanda, and Seychelles, than in The Gambia, Kenya, Liberia or

Mali.

Another objective deals with moving from literacy in local languages to literacy in official languages. The accepted policy is to execute literacy programs in local languages first, then at a later time, augment this with literacy in the official language. Such programs in official languages increase costs and complicate logistics. However, these programs are a necessity if the nations of the Third World are to enter into global economics and technology. An educated population must have the capacity to receive technological and economic information from a world-based language in which most of the information is readily available. Only literacy in the world-languages can provide this benefit. Vaughan correctly assesses the situation. "In the Euramerican world it has been possible, through writing, to accumulate knowledge more readily, disseminate it more widely, and thereby greatly accelerate (a society's) rate of change . . . Under nonliterate conditions, the rate of accumulation of knowledge was more restricted, and so also was the rate of change."13 Official languages are not only used inter-nationally, but intra-nationally as well. Often, official languages are the only means of communication for people of diverse languages in spite of the fact that they are all citizens of the same country.

The present state-of-the-art of adult literacy pedagogy would certainly indicate that comparative research projects are yet to be designed and executed. Although functional literacy campaigns are primarily the domain of the developing nations, the majority of literacy-related research takes place in the industrialized nations. These studies are primarily directed toward consumption in the Western industrialized world, but this research could well be adapted to investigations in the Third World in order to assist literacy endeavors there. Several Western-oriented studies have been attempted and conducted in developing nations, and there is expanding interest in this research.14 Studies involving the development of literacy materials based on core vocabularies, base-referental spectra, and paired associates have been accomplished in The Gambia, and have applicability in other countries as well. Reference to these studies has been made elsewhere in this volume.

This cross-cultural research is valuable, but it carries a caveat along with it. As educational researchers from the West attempt investigations in the Third World, they find that they must adapt their perceptions to the target language and culture in order to conduct culturally-sensitive research and to help develop teaching materials which relate to the target culture. Western research which is strictly replicated into a Third World culture is likely to experience unforseen complications caused by differences between the linguo-cultural system of the target population. If the investigator does not recognize these differences and make adjustments for them in the research, the results of the study may be totally invalid or skewed toward inaccurate assumptions. Subsequent development of teaching materials based on this research will be equally skewed. These shifts in cultural differences are part of the phenomenon known as Cultural Refraction.15

In time, methods of cross-cultural research in literacy-related techniques will be refined. But even now, certain implications for success in program development and materials production must be considered. The industrialized world has always been in the forefront in conducting literacy research but until recently has executed these studies in a limited range of cultural settings. The Western researcher has worked in the background of a known culture. Western research can be of assistance to the development of literacy campaigns in the Third World, but it should not be viewed as the final authority of the direction of these programs. Any Western research which is conducted in divergent cultural settings must be scrutinized carefully to ascertain the areas of dissonance between the culture of the original research and of the target culture. Because of the presence of Cultural Refraction, replicated Western literacy studies must be modified to the target culture, and, most importantly, should be conducted by members of that culture. Western researchers can aid their Third World colleagues by providing descriptions and results of their research, but should leave the actual replication of the research to those best qualified to execute it, i.e., the native literacy worker. In effect, literacy materials in local languages should not be developed for the Third

World; they must be developed by the Third World. This will assure the cancellation of the effects of Cultural Refraction, and will insure the development of culturally-sensitive materials for the program.

A consideration for the future is a need for literacy in computer-related services. In several countries, computers are used in governmental offices, banks, and airlines. The information explosion makes computer literacy inevitable. As the developing nations move farther into the mainstream of the twentieth century, life becomes more complicated with the greater supply of information that must be reviewed, organized, and stored. Computer literacy may well become an integral part of existence for these nations, and may therefore have to be treated as part of the functional literacy concept. Quite possibly in the distant future, the logistics of coordinating a functional literacy campaign might best be managed with the aid of computers.

Strang notes "from an international viewpoint, reading is the key to communication and contributes to the solution of world problems of poverty and animosity."16 Functional literacy's main concern is with local problems rather than with global problems. It certainly is intended to alleviate poverty. But functional literacy does have international implications as well. The removal of illiteracy from our planet is an international endeavor which, paradoxically, must be accomplished at the local level. And yet, information of local literacy campaigns throughout the world should be synthesized and made available on an international scale to government agencies and literacy workers alike, so that new and innovative programs and techniques which are developed on one side of the Earth can be attempted on the other side. In this way, successful programs in one linguo-cultural system can be replicated or adapted to other cultures, and unsuccessful programs can be discarded. In this way, a truly global fight against illiteracy can prevail.

NOTES

[1]Kenneth S. Goodman, "On Being Literate in an Age of Information," Journal of Reading, 28,5 (1985), p. 391.

[2] Brian Weinstein, "Language Planning in Francophone Africa," Language Problems and Language Planning, 4,1 (1980), p. 64.

[3]E.R. Chadwick, "Fundamental Education in Udi Division," Overseas Education, 1. Paris: UNESCO, 1949, p. 9.

[4]Philip J. Foster, "Problems of Literacy in Sub-Saharan Africa," in Thomas A. Sebeok, ed., Current Trends in Linguistics, 7, The Hague: Mouton, 1971, p. 597.

[5]Bela H. Banathy and Dale L. Lange, A Design for Foreign Language Curriculum, Lexington: D.C. Heath, 1972, p. 100.

[6]See Robert Textor, A Cross-Cultural Summary, New Haven: HRAF Press, 1967; Ted Ward, "Cognitive Processes and Learning: Reflections on a Comparative Study of 'Cognitive Style' (Witkin) in Fourteen African Societies," Comparative Education Review, 17 (1973), pp. 1-10; and H.A. Witkin, "A Cognitive-Style Approach to Cross-Cultural Research," International Journal of Psychology, 2 (1967), pp. 233-250.

[7]John R. Bormuth, "Reading Literacy: Its Definition and Assessment," Reading Research Quarterly, 9,1 (1973-74), p. 10.

[8]Richard L. Venesky, "Principles for Design of Practical Writing Systems," in Joshua A. Fishman, ed., Advances in the Creation and Revision of Writing Systems, The Hague: Mouton, 1977, p. 43.

[9]Richard C. Burke, The Use of Radio in Adult

Literacy Education, Amersham: Hulton Educational Publications, Inc., 1976, p. 10.

10 See Edmun B. Richmond, New Directions in Language Teaching in Sub-Saharan Africa, Lanham: University Press of America, 1983.

11 Edmun B. Richmond, "Radio Rurale: Education and Information for an Illiterate People," Technology and Mediated Instruction, 15,1 (1980), pp. 35-37.

12 H.S. Bhola, "Evaluating Functional Literacy," Amersham: Hulton Educational Publications, Ltd., 1979, p. 119.

13 James H. Vaughan, "Environment, Population, and Traditional Society," in Phyllis M. Martin and Patrick O'Meara, eds., Africa, Bloomington: Indiana University Press, 1977, p. 18.

14 See Dina Feitelson, ed., Cross-Cultural Perspectives on Reading and Reading Research, Newark, Delaware: International Reading Association, 1978.

15 This term was coined by the author in 1980. For a description of the phenomenon, see Edmun B. Richmond, "Two Strategies for Selecting Vocabulary in Third World Literacy Programs," Reading Improvement, 22,1 (1985), pp. 41-49; and "Cultural Refraction: Its Effects on Replicating Literacy Research in Developing Nations," Geolinguistics 86, forthcoming.

16 Ruth Strang, "How Successful Readers Learn: A Global View," in Ralph C. Staiger and Oliver Anderson, eds., Reading: A Human Right and a Human Problem, Proceedings of the Second World Congress on Reading, Copenhagen, Denmark, August 1-3, 1968, Newark, Delaware: International Reading Association, (1969), p. 15.

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